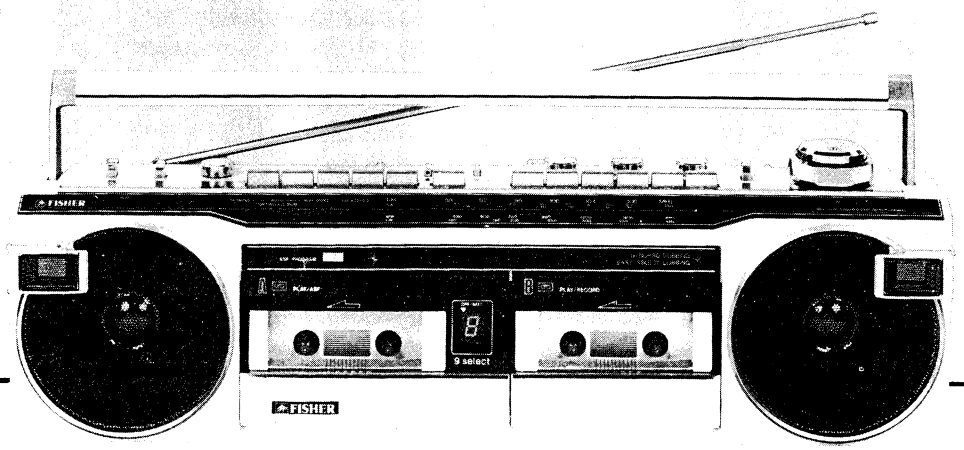
SERVICE MANUAL

FISHER

PH-W875L

Stereo Radio Cassette Recorder
(EUROPE)



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SPECIFICATIONS

Power Source
- AC 120V/220V (50/60Hz)
- DC ..... 10.5V (UM-2, HP11, C Cell, Babyzelle, R 14) x 7

Output Power (Max. music power) ..... 5.0W x 2 (Max.)
Power Consumption 13W
Current Consumption (at Vol. Min.)
- Record mode (with Metal) 230mA
- Playback mode 160mA
- Fast Forward mode 130mA
- Rewind mode 130mA

Recording System ..... AC Bias
Erasing System ..... AC Erasing
Tape Speed ..... 1-7/8ips. ±3%
Wow & Flutter ..... 0.15%, WRMS
Fast Forward/Rewind Time ..... 110sec. (with C-60)
Frequency Response (Overall)
- Fe_2O_3 ..... 70Hz ~ 13,000Hz
- CrO_2 ..... 70Hz ~ 15,000Hz
- Metal ..... 70Hz ~ 16,000Hz

Erase Ratio (Overall, with Fe_2O_3) 60dB
Signal to Noise Ratio (with Fe_2O_3) 48dB
Crosstalk (with Fe_2O_3)
- Track to Track 50dB

Harmonic Distortion (K3 with Fe_2O_3) ... 5%
Hum & Noise (at Vol. Min.) ..... −60dBs
Input Sensitivity and Impedance
- MIC 3.3kΩ
- LINE IN 100mV/100kΩ

Output Level and Impedance
- LINE OUT 400mV/2.2kΩ
- Headphones ..... 3Ω ~ 32Ω

Frequency Range
- MW ..... 525 ~ 1,605kHz
- SW ..... 6 ~ 18MHz
- LW ..... 150 ~ 350kHz
- FM ..... 87.5 ~ 108MHz

−Specifications subject to change without notice.−

DISASSEMBLY INSTRUCTIONS

GENERAL REMARKS

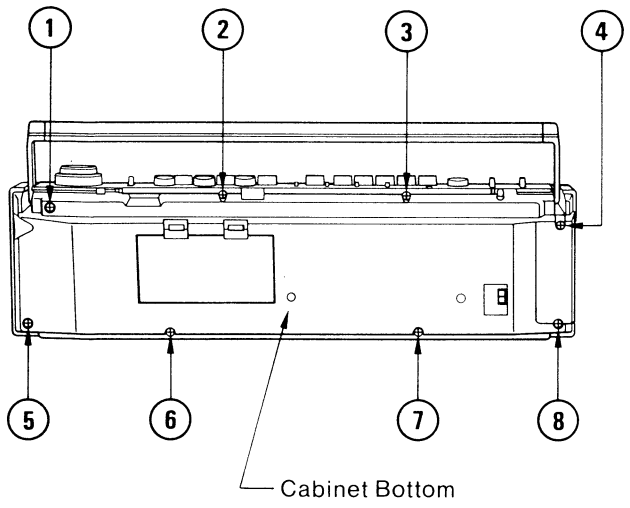
- Before disassembling the unit, spread a soft rubber mat or a cloth on the work bench to avoid scratches and grease stains.
- Do not spread anything which is likely to cause static electricity because transistors and ICs may be easily damaged by it.
- Reassemble the unit, noting the kinds of screws and the soldering and arrangement of the leads. Refer to "Circuit Diagram and Exploded Views" for correct assembly.
- Before disassembling the unit, take out the cassette tape and the batteries.

CASSETTE COMPARTMENT LID REMOVAL

1. Open the Cassette Compartment Lid by pressing the STOP/EJECT button.
2. Unlock the compartment latches from the Cabinet Top by pressing both sides of the Lid strongly. Then, the lid can be easily removed.
3. Reassemble in reverse order.

CABINET BOTTOM REMOVAL

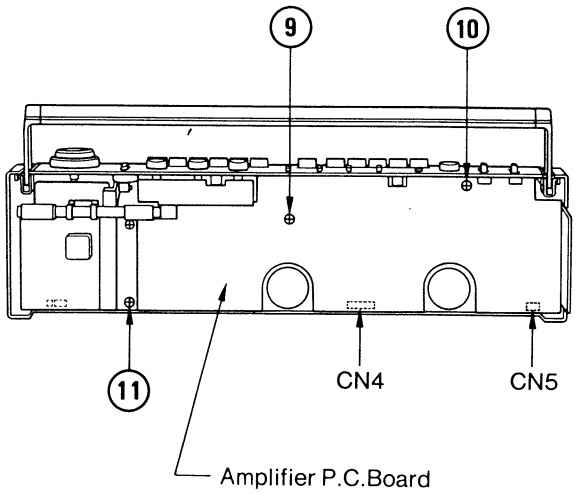
1. Remove the battery compartment lid and remove the eight screws (1 ~ 8) fastening the Cabinet Bottom.



2. Detach the Cabinet Bottom by lifting it and then, pull out the connector of the antenna from the Radio Tuner P.C.Board and a connector of the Power Supply P.C.Board from the Amplifier P.C.Board.

RADIO CHASSIS REMOVAL

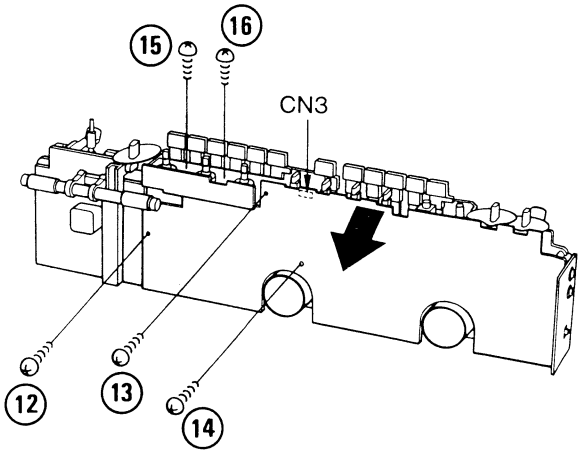
1. After removing the Cabinet Bottom, pull out the Handle, Tuning, Volume Control, Tone Control, Balance Control, and Mixing Volume Knobs from the unit.
2. Pull out the two connectors (CN4 and CN5) from the Amplifier P.C.Board.
3. Remove the three screws (9 ~ 11) fastening the Radio Chassis.



4. Detach the Radio Chassis by lifting the motor side of the chassis.
5. Reassemble in reverse order.

AMPLIFIER P.C.BOARD REMOVAL

1. Follow the instructions for the Radio Chassis Removal and remove the three screws (12 ~ 14) from the Amplfier P.C.Board and the two screws (15 and 16) from the Volume Control P.C.Board.



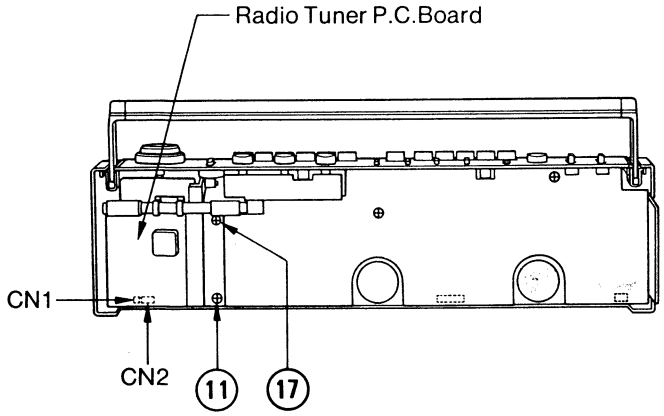
2. Pull out the connector CN3 from the Amplifier P.C.Board. Then, detach the P.C.Board by lifting it in the numerical order as illustrated noting the motor terminal and lead wires.
3. Reassemble in reverse order.

DISASSEMBLY INSTRUCTIONS (Continued)

RADIO TUNER P.C.BOARD REMOVAL

1. Follow the instructions for the Cabinet Bottom Removal and fully turn the Tuning Knob in an arbitary direction.

2. Pull out the two connectors (CN1 and CN2) from the Radio Tuner P.C.Board and remove the two screws (11 and 17) fastening the Radio Tuner P.C.Board.



3. Detach the P.C.Board by lifting it.

4. Reassemble in reverse order.

NOTE:

‡ Do not turn the Tuning Shaft before the Radio Tuner P.C.Board is re-mounted to the unit.

‡ When the Radio Tuner P.C.Board is mounted, insert the shaft of the variable capacitor into the hole on the drum. After that, check to see that correct dial indications are obtained.

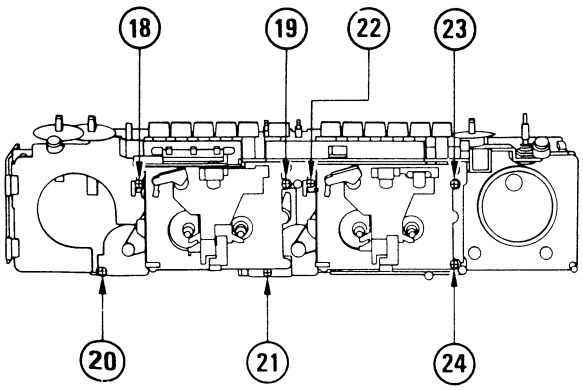
MECHANISM CHASSIS REMOVAL

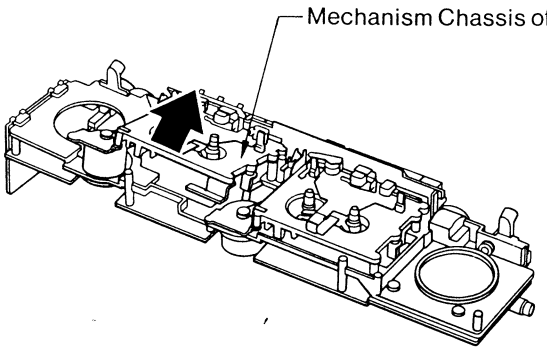
A Side

1. Detach the Radio Chassis and remove one screw (14) of the Amplifier P.C.Board

2 Remove the four screws (18 ~ 21) and detach the mechanism by liftingthe Chassis as shown in the illustration.

NOTE: Remove the lead wire need to detach the mechanism.



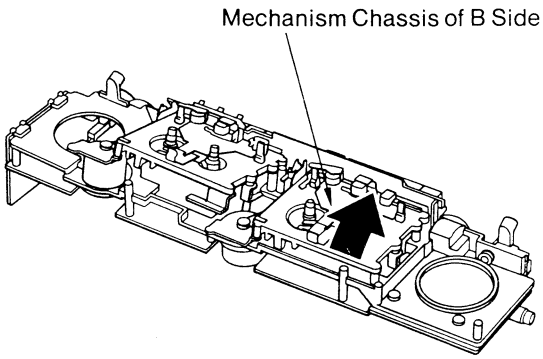


B Side

1. Remove the four screws (18 ~ 21) of the A Side and the three screws (22 ~ 24) of the B Side.

2. Lift the chassis of A Side and remove the lead wire needed to detach the mechanism of the B Side.

3. Lift the mechanism of the B Side with paying attention to the lead wire.



NOTICE ON REASSEMBLY

1. Refer to "Wiring Diagram" for re-wiring.
2. Refer to "Exploded Views" for reassembly of the Mechanism.
3. Check to see that the lead wires or electrical components do not touch the driving mechanism.

ADJUSTMENT PROCEDURES

GENERAL REMARKS

- Before the adjustments, wipe off stains on the tape contacting surfaces of the parts, the belt and pinch roller with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.

- Carefully handle the belt because grease easily attaches to it.

- Check the rubber-used parts, If the rubber has quality deterioration or scratch marks, replace the part with a new one.

EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Dummy Load (32Ω)
- Dualtrace Oscilloscope
- DC Constant-voltage Regulator
- Test Tapes
  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 10kHz Test Tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
- Alignment Tool

Unless especially specified, set the switches and controls as follows:

- Tape Select Switch of A side ..... NORMAL
- Tape Select Switch of B side ..... NORMAL
- Function Switch ..... TAPE
- Mode Switch ..... STEREO
- Auto Dubbing Switch ..... OFF
- Balance Control ..... Center (click position)
- Tone Control ..... High
- Volume Control ..... Arbitrary

NOTE:

‡ Supply 10.5V DC from the constant-voltage regulator to the Ext. Power Jack.

ASF SOLENOID ADJUSTMENT

ASF(Automatic Search Function) detects a silent space (unrecorded portion) between each music on a musictape and automatically plays back a desired music from the start.

NOTE:

The unrecorded portion should last for more than approximately 4 seconds.

It may not operate correctly in the following cases:

‡ When the recorded sound is often interrupted as in a speech tape.

‡ When the silent space does not last long enough (less than 4 seconds).

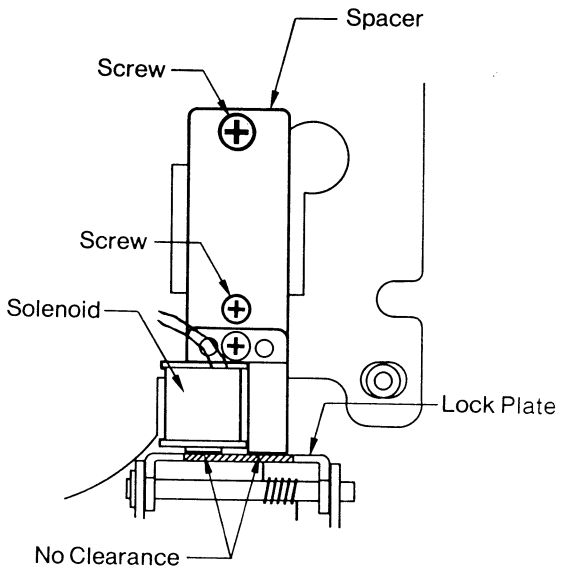
‡ When there is an appreciable noise in the silent space between two adjacent programs.

‡ When the unit is placed on a television set, ASF may not operate correctly due to adverse effect of the TV signal. In this case, put the unit away from the television set.

If ASF Solenoid is not correctly positioned, ASF Switch does not function correctly, F.FWD or Rewind button is released while ASF is working, or a button may not be locked. In this case, perform the adjustment as follows:

1. Remove the Mechanism Chassis from the unit by following its removal instructions.

2. Loosen the two screws fastening the Spacer of the Solenoid and adjust the Spacer by moving it in the direction of the arrow, so that the Lock Plate is tightly attached to the two absorption surfaces of the Solenoid as illustrated.



3. After the adjustment, tighten the screws.
   Set the unit in the playback mode and check that AMSS mechanism functions correctly as follows:
   ‡ Check if F.FWD button can be locked by pressing it.
   ‡ Check if Rewind button can be locked by pressing it.

4. Readjust the spacer position if either F.FWD or Rewind button can not be locked or is soon released.

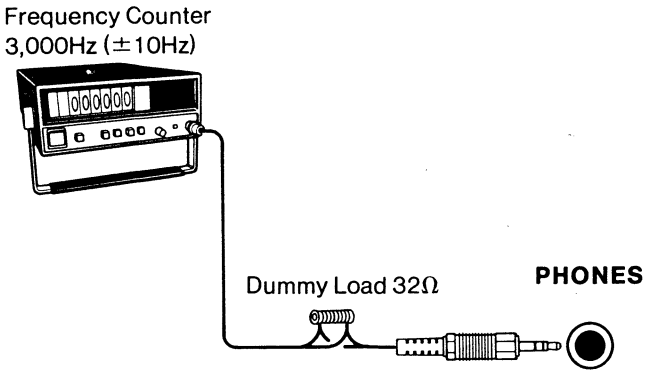
5. After the confirmation, secure the screw with paint or glue.

ADJUSTMENT PROCEDURES(Continued)

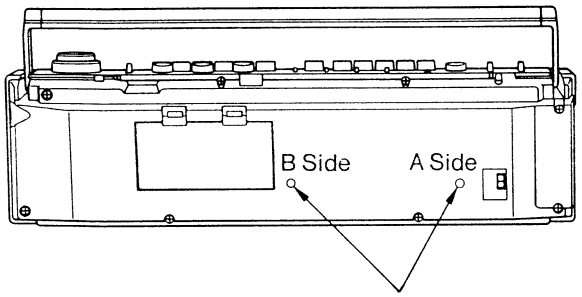
NORMAL TAPE SPEED ADJUSTMENT

Adjustment of A Side

1. Connect a frequency counter to the left or right channel output of the headphone jack as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



2. Adjust the tape speed by slowly turning the potentiometer inside the Motor of A side until the frequency counter reads 3,000Hz (±10Hz).



Potentiometer for Tape Speed Adjustment

Adjustment of B Side

Adjust the potentiometer inside the Motor of B side by following the same procedure as in A side.

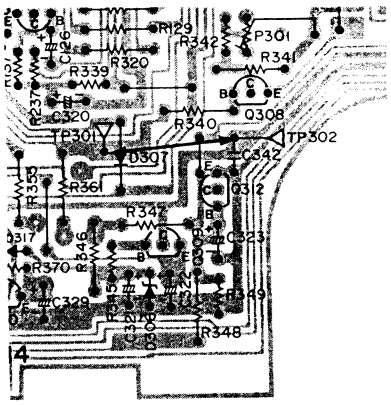
DOUBLE TAPE SPEED ADJUSTMENT

1. Conect the frequency counter as the same way as the speed adjustment of normal speed dubbing.

2 Short out the testing point (TP301 and TP302).

Adjustment of A Side

‡ Adjust the adjusting volume P301, playing back the testing tape so that the counter indicates 6000Hz (±20Hz).



Adjustment of B Side

‡ Put the A side in playback mode without a cassette.

‡ Adjust the adjusting volume P302 as the same way as the A side.

HEAD AZIMUTH ADJUSTMENT

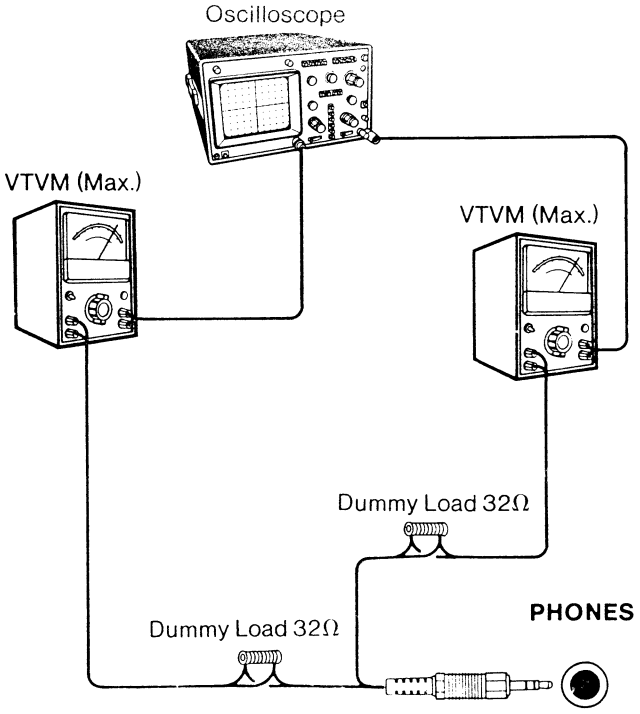
Detach the cassette compartment lid on both sides from the unit and connect a dualtrace oscilloscope and a VTVM to both channel LINE OUT as illustrated.

Then, set the dualtrace oscilloscope as follows:

‡ MODE ..... CHOP (chopped)
‡ SOURCE ..... INT (internal), CH1 or CH2
‡ SWEEP MODE ..... AUTO (automatic)

NOTE:

Adjust the field on the oscilloscope with the VOLT. ADJ. and TIME ADJ.

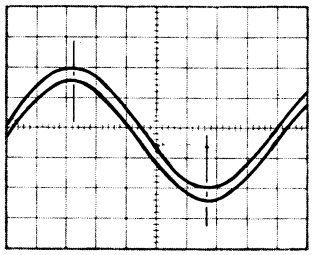


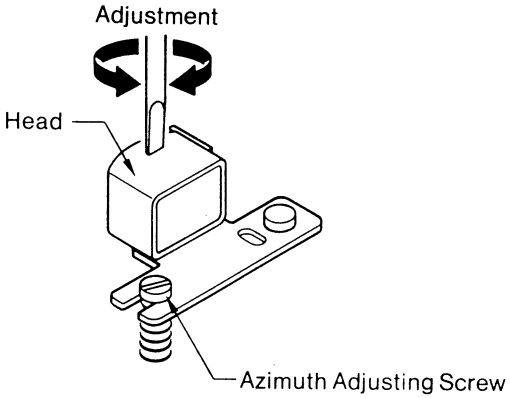
ADJUSTMENT PROCEDURES(Continued)

Adjustment of A Side

1. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment.

2. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.





A Side = Playback Head
B Side = Record/Playback Head

Adjustment of B Side

1. Adjust the azimuth adjusting screw of B side by following the same procedure as in A Side.

After the adjustment, secure the adjusting screw of both sides with paint or glue.

TUNER ADJUSTMENT

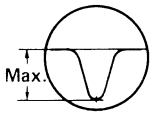
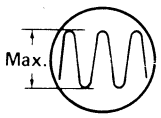
EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna
- Dummy Antenna (30Ω/10pF) for SW
- Ceramic Capacitor (10pF)
- Dummy Antenna (75Ω, unbalanced type) for FM
- Carbon Resistor (100kΩ)
- VTVM
- Oscilloscope
- Frequency Counter
- Dummy Load (32Ω)
- Alignment Tool
- Before performing the adjustment, set the switches and controls as follows:
  - ‡ Function Switch ..... RADIO
  - ‡ Mode Switch ..... MONO
  - ‡ Balance Contorl ..... Center (click position)
  - ‡ Tone Control ..... High
  - ‡ Volume Control ..... Arbitrary

NOTE:
Use an alignment tool with plastic grip for all adjustments.

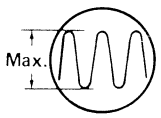
MW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF for AM	Connect loop antenna to output terminal of gene-scope. Place loop antenna by bar anttenna.	Connect input terminal of gene-scope to detector output terminals (TP5).	460kHz	Low End	T2	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM wiht 32Ω dummy load and oscilloscope to Phones Ext. Speaker jack	510kHz		T6	Obtain sine-wave of 400Hz and maximum amplitude. 
3				1,670kHz	High End	TC3	
4	Adjustment of Tracking			600kHz	600kHz	BA1-1 (bar ant. coil)	
5				1,400kHz	1,400kHz	TC3 (PVC)	
6	Repeat the above steps until no further change is noted in any of the adjustments.						

LW ALIGNMENT

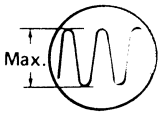
Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 32Ω dummy load and oscilloscope to Phones Ext. Speaker jack.	145kHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude. 
2				365kHz	High End	TC4	
3	Adjustment of Tracking			170kHz	170kHz	BA1-2 (bar ant. coil)	
4				310kHz	310kHz	TC5	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

TUNER ADJUSTMENT (Continued)

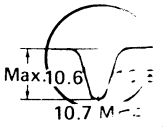
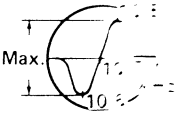
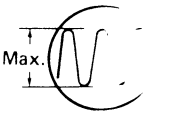
SW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect AM signal generator to antenna terminals (TP1 and TP3) through dummy antenna (30Ω/10pF).	Connect VTVM with 32Ω dummy load and oscilloscope to Phones Ext. Speaker jack.	5.7MHz	Low End	T5	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC2	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T4	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

FM ALIGNMENT

Standard test frequency 400Hz and deviation 22.5kHz

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Place output of gene-scope to TP4 through capacitor (10pF).	Connect input terminal of gene-scope to detector output terminal (TP5).	10.7MHz	Low End	Turn T3 (blue core) fully counter-clockwise and then, adjust T1.	Obtain symmetrical curve and maximum amplitude. 
2						T3 (blue core)	Obtain **S** curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect FM signal generator to antenna terminals (TP1 and TP3) through dummy antenna (75Ω, unbalanced type).	Connect VTVM with 32Ω dummy load and oscilloscope to Phones Ext. Speaker jack.	87.35MHz		L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz	High End	TC2 (PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above steps until no further change is noted in any of the adjustments.						

FM MPX (Multiplex) ADJUSTMENT

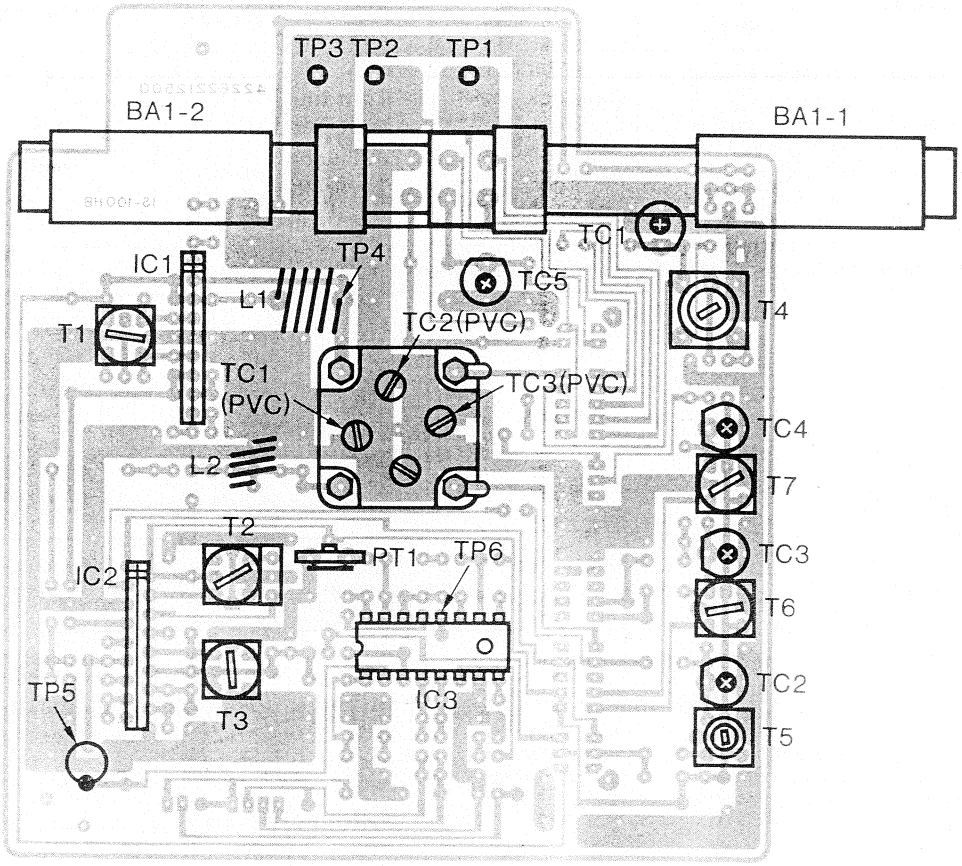
19kHz (V.C.O.) ADJUSTMENT

1. Before the adjustment, set the switches as follows:
   - Mode Switch ..... STEREO
   - Band Select Switch ..... FM
   - Function Switch ..... RADIO

2. Connect a flequency counter to TP6 through a resistor 100kΩ.

3. Adjust the potentiometer (PT1) until the oscillation frequency of IC3 becomes 19kHz (±20Hz).

TUNER P.C.BOARD LAYOUT
ALIGNMENT POINTS



DIAL CORD STRINGING

1. Mount the Drum on the Radio Chassis as illustrated and fully turn the shaft of the variable capacitor counterclockwise.

2. Mount the Radio Tuner P.C.Board on the Radio Chassis and then, insert the shaft of the variable capacitor into the Drum.

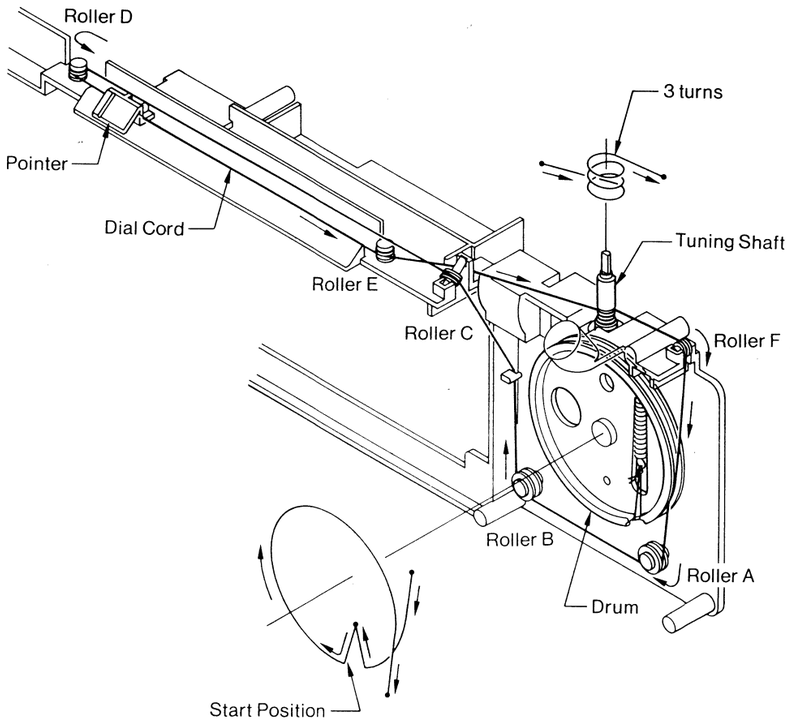
3. Tie the Dial Cord of length 1,050mm (effective length: 990mm) and diameter ϕ0.5 to the Spring and hook the Spring to the illustrated position of the drum.

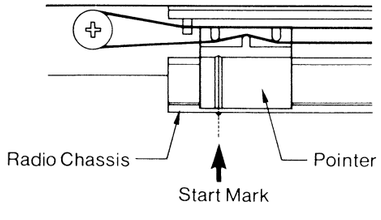
4. Engage the Dial Cord as illustrated in the following order.
   Spring → Drum → Roller A → Roller B → Roller C → Roller D → Roller E → Tuning Shaft (3 turns) → Roller F → Drum → Spring

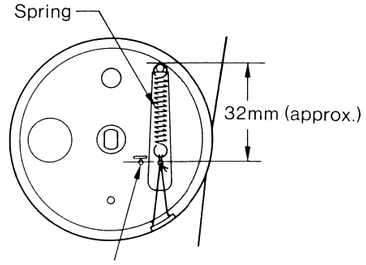
5. Hook the Dial Cord to the Spring and tie the cord where the spring tip expands to the mark on the Drum as illustrated: (Spring length becomes approximately 32mm.)

6. Secure the place where the Spring is hooked to the Drum and knot in the dial cord with paint or glue.

7. Turn the Tuning Shaft counterclockwise until it stops and then, set the Pointer to the start mark on the Radio Chassis as illustrated.
   Then, secure the pointer there with white lacquer.







Extend the spring to the center of the mark.

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	141 2 1719 20300	Handle	1
	141 6 1419 75901	Individual Carton	1
	141 6 1449 98600	Case Styrofoam R	1
	141 6 1449 98700	Case Styrofoam L	1
	141 6 2519 15590	Poly Cover	1
	141 6 2519 23033	Poly Cover 230 x330	1
	141 6 3119 19300	Reinforce Handle	1
	141 6 4559 00100	Serial No. Sheet	3
	141 6 4559 03952	Label Color W (White)	2
	141 6 4559 03954	Label Color R (Red)	2
	141 6 4559 03955	Label Color DB (Deep Blue)	2
	ACCESSORIES		
	4 2419 74052	Cassette	1
	4 2439 70310	Cord Power	1
	131 6 4519 15700	Guarantee Cert	1
	141 6 4729 07400	Label Caution	1
	141 6 4729 07700	Label Caution	1
	142 6 4119 32269	Instruction Manual	1
	CABINET		
	4 2359 75878	Connector 3P Assy [CN5]	1
	141 2 4729 04100	Lug	1
	141 2 4729 05300	Wire Band	7
	4 2359 70990	Socket Pin RT	1
	4 2379 70650	Ring Terminal	1
CA1	141 2 1149 35200	Cover Battery	1
CA2	141 2 4359 33000	Insulator	1
CA3	141 2 3229 42200	Plate Shield	1
CA4	141 2 4219 25800	Screw	2
CA5	⚠ 4 2519 73834	Power Trans [T301]	1
CA6	⚠ 4 2319 72130	Switch Slide (VOLTAGE SELECT) [S18]	1
CA8	141 2 4359 21300	Socket Cover	1
CA9	141 0 1129 05403	Cabinet Bottom Assy (White)	1
CA9	141 0 1129 05404	Cabinet Bottom Assy (Red)	1
CA9	141 0 1129 05405	Cabinet Bottom Assy (Deep Blue)	1
CA10	141 2 4219 09801	Screw	6
CA11	4 2449 70062	Antenna	1
CA12	141 2 4469 42900	Cushion	1
CA13	141 2 4419 19000	Cushion	4
CA14	141 2 1339 29302	Lid Battery (White)	1
CA14	141 2 1339 29306	Lid Battery (Red)	1
CA14	141 2 1339 29303	Lid Battery (Deep Blue)	1
CA15	141 2 8529 06201	Spring Lid Cassette	2
CA16	141 0 1249 27608	Lid Cassette R Assy (White)	1
CA16	141 0 1249 27609	Lid Cassette R Assy (Red)	1
CA16	141 0 1249 27610	Lid Cassette R Assy (Deep Blue)	1
CA17	141 0 1249 31103	Lid Cassette L Assy (White)	1
CA17	141 0 1249 31104	Lid Cassette L Assy (Red)	1
CA17	141 0 1249 31105	Lid Cassette L Assy (Deep Blue)	1
CA18	141 2 4469 44900	Cushion	2
CA19	141 0 1119 99508	Cabinet Top Assy (White)	1
	Following Speakers are included in Cabinet Top.		
	4 1519 71211	Speaker (300Ω) [SP102 & SP202]	2
CA19	141 0 1119 99509	Cabinet Top Assy (Red)	1
	Following Speakers are included in Cabinet Top.		
	4 1519 71211	Speaker (300Ω) [SP102 & SP202]	2
CA19	141 0 1119 99510	Cabinet Top Assy (Deep Blue)	1
	Following Speakers are included in Cabinet Top.		
	4 1519 71211	Speaker (300Ω) [SP102 & SP202]	2
CA20	141 2 2419 30700	Sheet Knob Tuning	1

Ref. No.	Part No.	Description	Q'ty
CA21	141 2 1639 58800	Knob Tuning	1
CA22	141 2 1639 58700	Knob Fine Tuning	1
CA23	141 2 1639 56600	Knob Volume	4
CA24	141 2 4469 48900	Cushion MIC	2
CA25	4 1519 71481	Speaker (3Ω) [SP101 & SP201]	2
CA26	141 2 3729 00801	Bracket Fix Speaker	6
CA27	141 0 5519 08501	Gear Eject Assy	2
CA28	141 2 7419 77200	Lock Lid Cassette	2
CA29	141 2 4219 09602	Screw	1
CA30	141 2 4219 12400	Screw	1
CA31	141 2 4219 11201	Screw	1
CA32	141 2 2719 18500	Holder Handle	2
CA33	141 2 1719 27800	Arm Handle	2
CA34	141 2 1719 27713	Handle (White)	1
CA34	141 2 1719 27714	Handle (Red)	1
CA34	141 2 1719 27715	Handle (Deep Blue)	1
CX1	102 3 1302 60611	Screw, Pan Hd. Tapping-1, +M2.6x6	2
CX2	102 3 1303 01013	Screw, Pan Hd. Tapping-1, +M3.0x10	14
CX3	102 3 1603 01213	Screw, Oval Hd. Tapping-1, +M3.0x12	2
CX4	143 3 1303 00611	Screw, Pan Hd. Tapping-B, +M3.0x6	2
CX5	110 3 3103 00011	Int. Star Washer, M3.0	1
	RADIO CHASSIS		
	4 2359 76747	Connector 4P Assy [CN3]	1
	141 2 4729 05300	Wire Band	2
DC1	141 2 3119 20700	Chassis Radio	1
DC2	141 2 4419 18500	Cushion	2
DC3	141 2 5389 03400	Drum	1
DC4	141 2 8519 78000	Spring Stop	1
DC5	141 2 4219 14000	Screw	4
DC6	141 2 5519 03300	Roller Dial A	2
DC7	141 2 8519 29400	Spring, Stop Lever	2
DC8	141 2 3519 57702	Bracket Arm Eject	2
DC9	4 2249 70301	Fine Tuner [FT1]	1
DC10	141 2 3689 11900	Holder LED	1
DC11	141 2 3519 69800	Bracket Chass1s	1
DC12	141 2 5119 10000	Pointer	1
DC13	141 2 8259 04700	Roller Dial	4
DC14	4 1539 70662	Microphone [BM1 & BM2]	2
DC15	4 2319 72121	Switch Leaf (STOP) [S12]	1
DC16	141 2 3679 32300	Plate Jack (White)	1
DC16	141 2 3679 32301	Plate Jack (Red)	1
DC16	141 2 3679 32302	Plate Jack (Deep Blue)	1
DC17	141 2 4469 40300	Cushion	1
DC18	141 2 4469 48800	Cushion Switch	2
DC19	141 2 2419 30600	Screen Switch	3
DC20	141 2 1629 08300	Knob Lever Switch	3
DC21	141 2 1659 25800	Knob Push Switch	3
DC22	141 2 1659 25801	Knob Push Switch	1
DC23	141 2 4219 29700	Screw	2
DC24	141 2 7319 64200	Plate Band Select	1
DC25	141 2 4469 39300	Cushion Switch	1
DC26	141 2 6219 04300	Lever Band Select	1
DC27	141 2 7539 49100	Pin Roller Dial	1
DC28	141 2 7539 25700	Pin Roller Dial	1
DY1	628 3 0911 00000	String, 0.5ϕ	1
DY2	101 3 1302 60811	Screw, Pan Hd. +M2.6x8	1
DY3	102 3 1302 60611	Screw, Pan Hd. Tapping-1. +M2.6x6	3
DY4	102 3 1302 60811	Screw, Pan Hd. Tapping-1. +M2.6x8	3
DY5	102 3 1302 61011	Screw, Pan Hd. Tapping-1. +M2.6x10	3
DY6	102 3 1302 61411	Screw, Pan Hd. Tapping-1. +M2.6x14	5

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
PCB1	141 0 1939 03242	Amplifier P.C.B. Assy	1
PCB2	4 1259 71934	Radio Tuner P.C.B. Assy	1
PCB3	141 0 1939 03291	Volume P.C.B. Assy	1
PCB4	141 0 1939 07381	Power Supply P.C.B. Assy	1
PCB5	141 0 1939 03260	ASF Indicator P.C.B. Assy	1
PCB6	141 0 1939 03280	ASF Switch P.C.B. Assy	1
PCB7	141 0 1939 03250	LED Indicator P.C.B. Assy	1
PCB8	141 0 1939 03270	Sub P.C.B. Assy	1

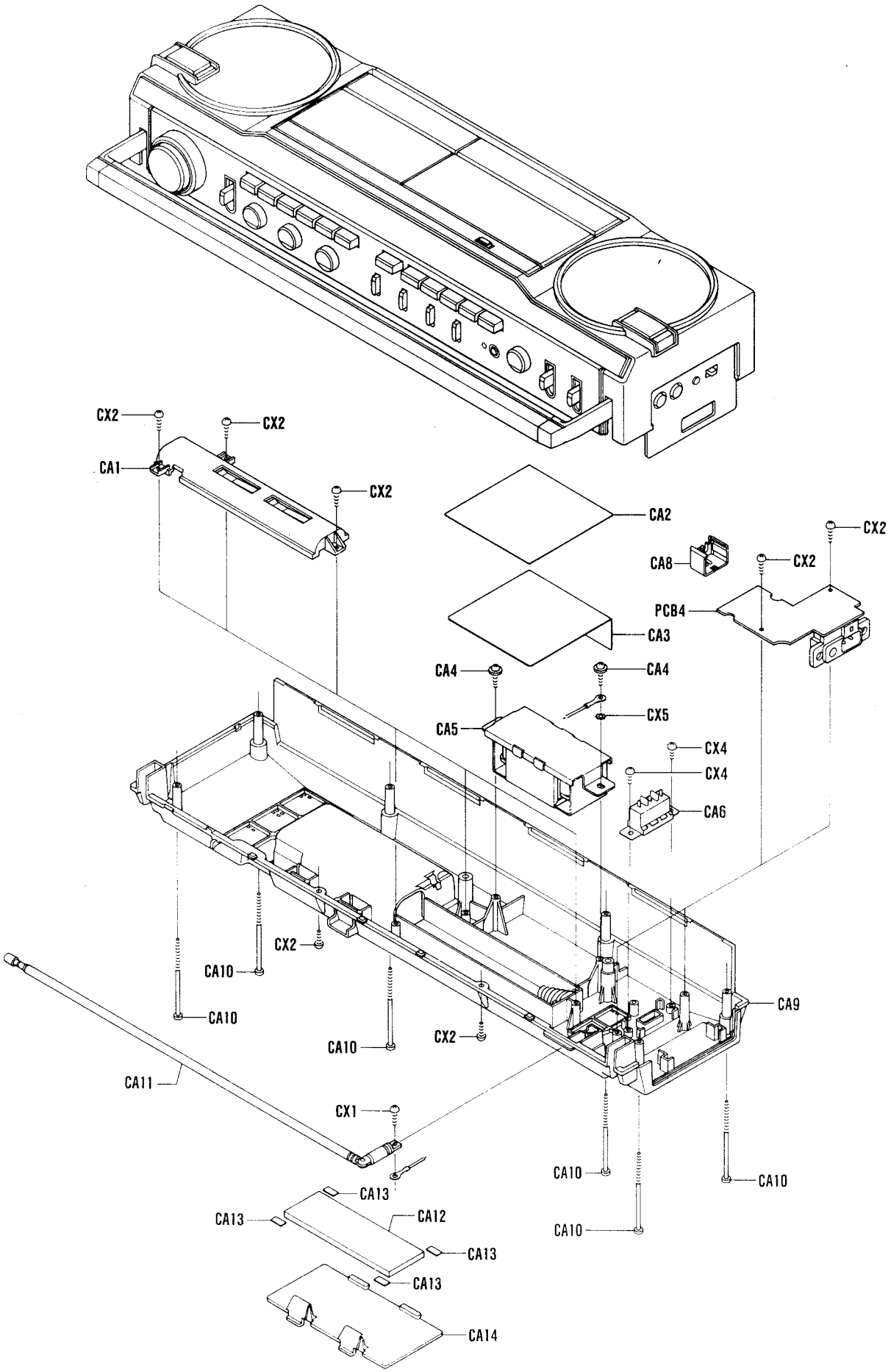
NOTE:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

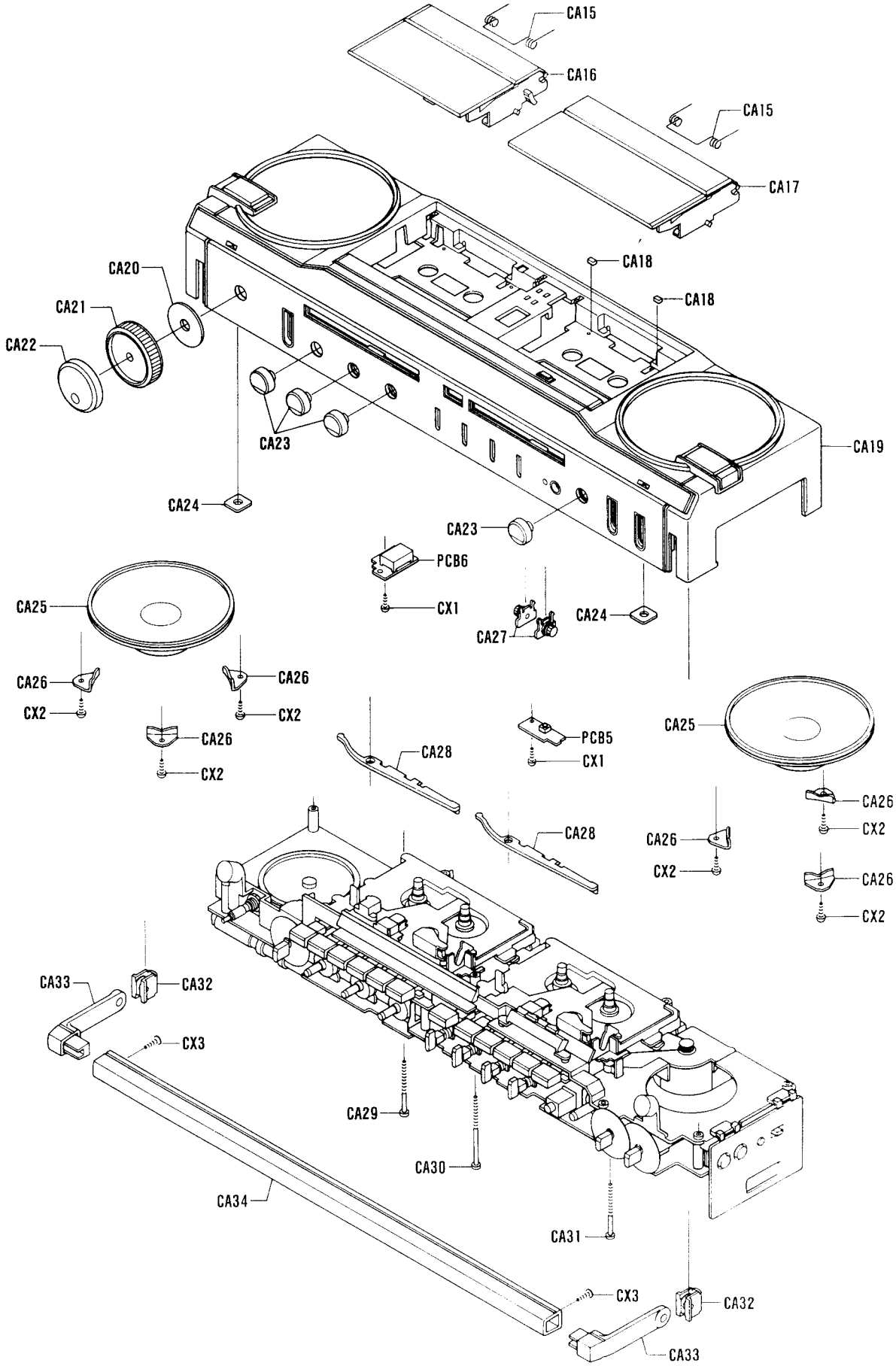
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

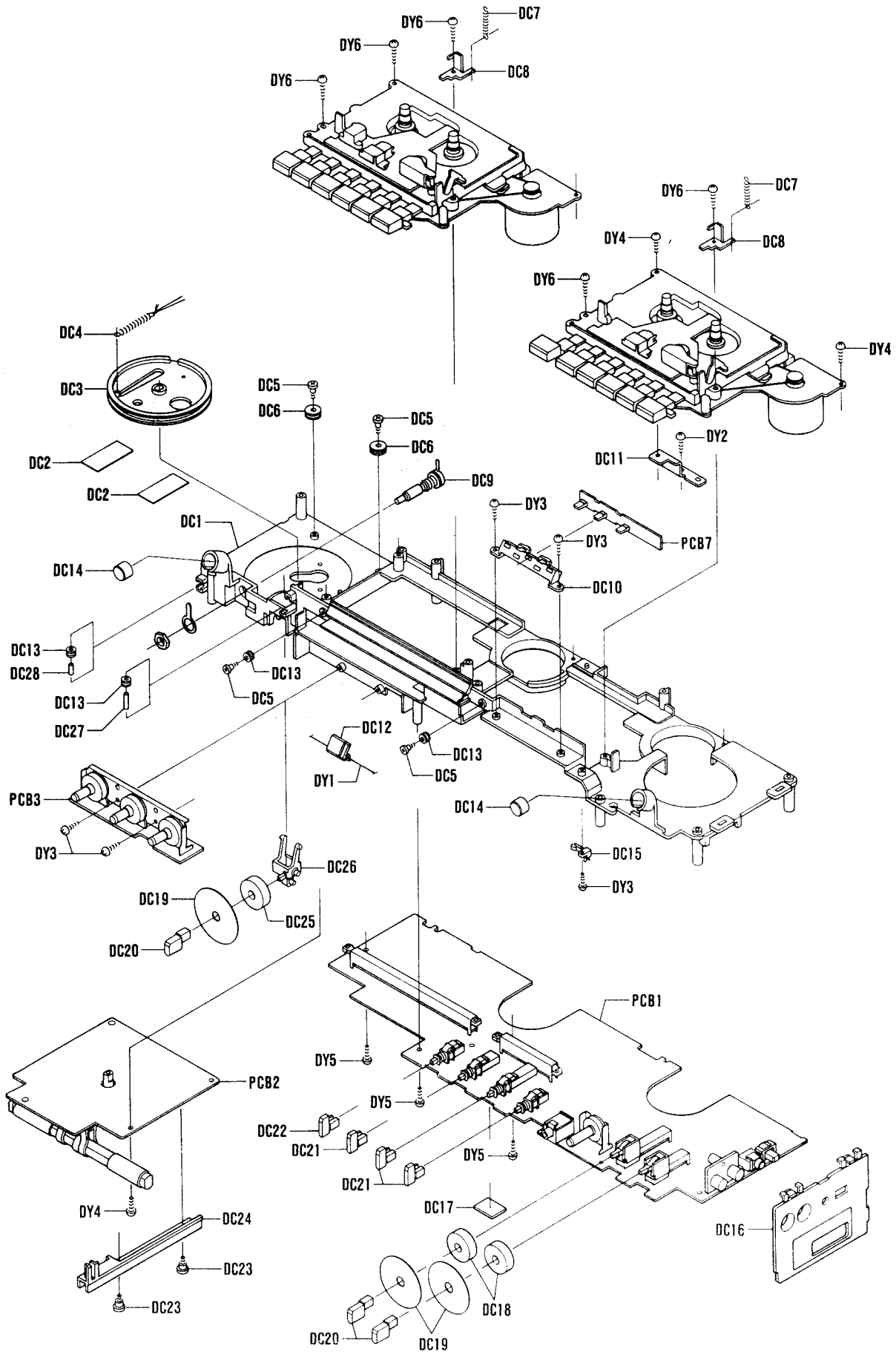
CABINET EXPLODED VIEW



CABINET EXPLODED VIEW(Continued)



RADIO CHASSIS EXPLODED VIEW



MECHANISM PARTS LIST

Ref. No.	Part No.	Description			Q'ty
	TAPE A & TAPE B SIMILAR PARTS				
	141 2 4729 00200	Lug			2
C339	CI1 0 3250 KF00C	Boundary	0.01μF	25V ±10%	1
C340	CI1 0 3250 KF00C	Boundary	0.01μF	25V ±10%	1
C343	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C344	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
MC1	141 0 3119 19902	Chassis Assy			2
MC2	141 2 8529 07300	Spring Arm Idler			2
MC3	141 2 8549 08700	Spring Brake			2
MC4	141 2 7149 05200	Arm Brake			2
MC5	141 2 4459 25200	Cover Brake			4
MC6	4 2319 72121	Switch Leaf (POWER, TAPE A) [S15]			1
MC6	4 2319 72121	Switch Leaf (POWER, TAPE B) [S17]			1
MC7	141 2 7319 43202	Base Slide			2
MC8	141 2 7419 68800	Lever Sensor			2
MC9	141 2 8519 47400	Spring Head			2
MC10	141 2 3229 41600	Shield Plate Head			2
MC11	141 2 8539 45200	Spring Cassette			2
MC12	141 2 8539 41102	Spring Cassette			2
MC13	141 2 8519 96901	Spring Cassette-up			2
MC14	141 2 4539 15700	Washer			4
MC15	141 0 5319 05400	Supply Reel Assy			2
MC16	141 2 4539 09400	Washer			4
MC17	141 2 8559 05500	Spring Supply			2
MC18	141 2 5519 36400	Gear FF			2
MC19	141 0 5319 05301	Take-up Reel Assy			2
MC20	141 2 8559 09400	Spring Reel Take			2
MC21	141 0 5419 03200	Pinchroller Assy			2
MC22	141 2 8519 97200	Spring Pinchroller			2
MC23	141 2 4219 13201	Screw Washer			2
MC24	141 0 7319 24201	Plate Eject Assy			2
MC25	141 2 8519 38700	SPG Lever Head			2
MC26	141 2 7419 74900	Lever Cassette-up			2
MC27	141 2 8549 10700	Spring Base Slide			2
MC28	141 2 7319 49300	Plate Lock			2
MC29	141 2 7419 75500	Lever Shut Off			2
MC30	141 2 1659 25600	Button Pause			2
MC31	141 0 7319 25200	Rod Pause Assy			2
MC32	141 2 4219 12100	Screw Washer			2
MC33	141 2 1659 25200	Button Stop			2
MC34	141 2 7319 49500	Rod Stop Eject			2
MC35	141 2 7419 75800	Lever Pause Lock			2
MC36	141 2 8529 05700	Spring Pause Lock			2
MC37	141 2 4539 15800	Washer			4
MC38	141 2 3519 57100	Bracket Plate			2
MC39	141 2 8549 10600	Spring Rod Play			2
MC40	141 2 8549 10800	Spring Sensor			2
MC41	141 2 8519 25400	Spring Click			2
MC41-1	141 2 8529 05500	Spring Rod			2
MC42	141 2 8529 05600	Spring Stopper REC			2
MC43	141 2 8529 05400	Spring Rod			2
MC44	141 2 8529 05401	Spring Rod Pause			2
MC45	141 2 5519 36601	Gear Capstan			2
MC46	141 2 8519 98200	Spring Flywheel			2
MC47	141 0 5219 07203	Flywheel Assy			2
MC48	141 2 5649 19700	Belt Capstan			2
MC49	141 2 4219 30100	Screw			6
MC50	141 2 4459 11800	Cushion Motor			6
MC51	4 5279 71176	Motor (TAPE A) [M1]			1
MC51	4 5279 71176	Motor (TAPE B) [M2]			1
MC52	141 0 3519 20102	Support FW Assy			2
MC53	141 2 8529 07200	Spring Ground			2
MC54	141 2 4539 12100	Washer Spindle			4
MC55	141 2 5519 36701	Idler Pulley Gear			2

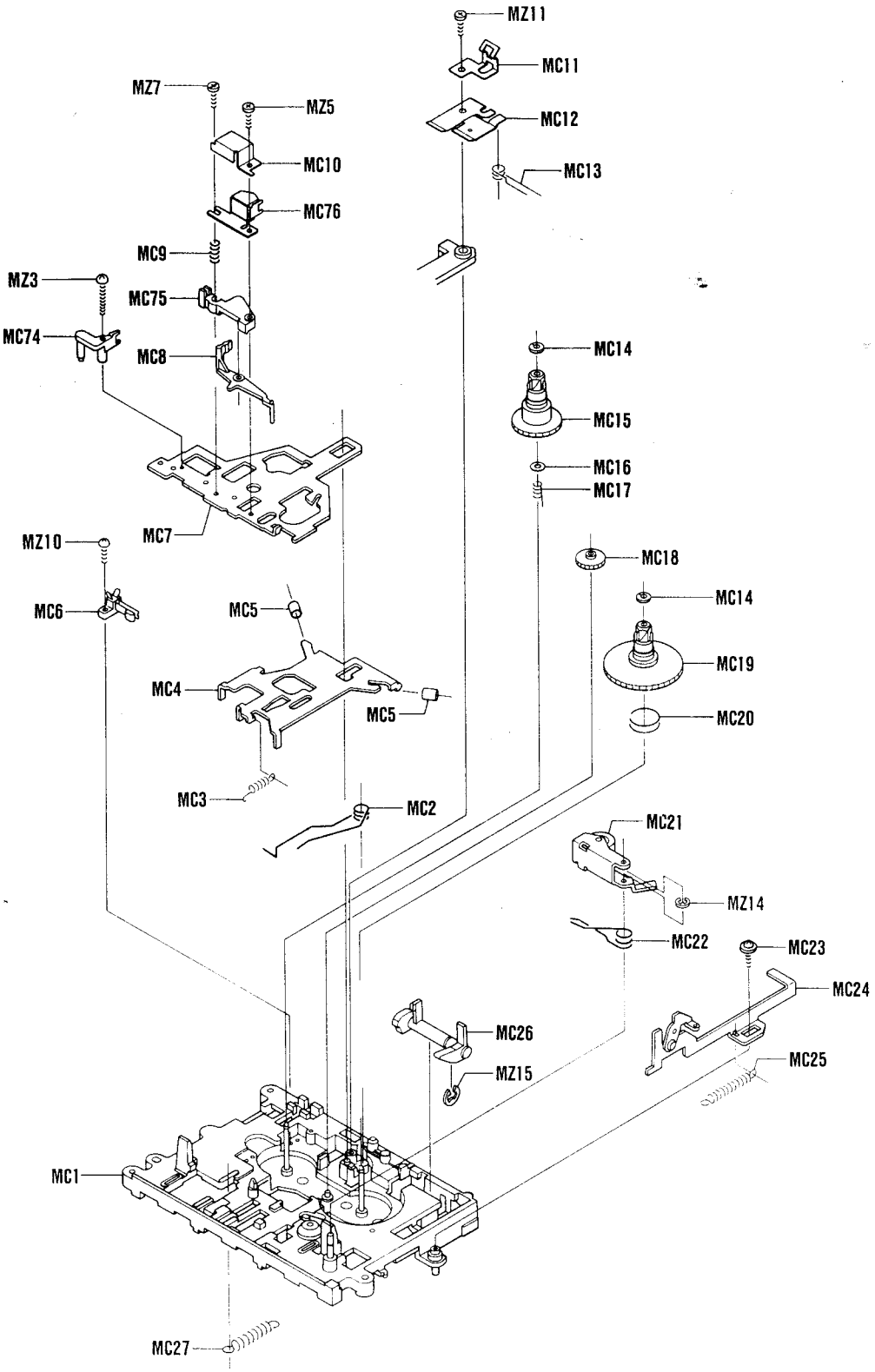
Ref. No.	Part No.	Description	Q'ty
MC56	141 0 7439 10400	Arm Idler Assy	2
MC57	141 2 8259 09100	Roller	2
MC58	141 2 8519 33000	Spring Lever Lock Index	2
MC59	141 0 7439 09200	Arm Take-up Assy	2
MC60	141 2 4539 05500	Washer	2
MC61	141 2 5519 36500	Gear Take-up	2
MC62	141 2 1659 25500	Button Fast Forward	2
MC63	141 2 7319 49700	Rod FF	2
MC64	141 2 1659 25400	Button Rewind	2
MC65	141 2 7319 49800	Rod Rewind	2
MC66	141 2 1659 25300	Button Play	2
MC67	141 2 7319 49900	Rod Play	2
MC68	141 2 7319 50000	Rod Record	2
MC69	4 2319 72570	Leaf Switch (PLAY, TAPE A) [S14]	1
MC69	4 2319 72570	Leaf Switch (PLAY, TAPE B) [S16]	1
MC70	141 2 8429 06100	Lever Record Switch	2
MC71	141 2 8519 78000	Spring Stop	2
MC72	141 2 7439 26200	Lever Stopper Record	2
MC73	141 2 4539 17200	Washer	2
MZ1	101 3 1302 00411	Screw, Pan Hd., +M2.0x4	1
MZ2	101 3 1302 00811	Screw, Pan Hd., +M2.0x8	1
MZ3	101 3 1302 01211	Screw, Pan Hd., +M2.0x12	1
MZ4	101 3 1702 00411	Screw, Bind Hd., +M2.0x4	1
MZ5	101 3 1702 00611	Screw, Bind Hd., +M2.0x6	2
MZ6	101 3 1702 00811	Screw, Bind Hd., +M2.0x8	2
MZ7	101 3 3702 00611	Screw, Bind Hd., M2.0x6	2
MZ8	102 3 1302 00611	Screw, Pan Hd. Tapping-1, +M2.0x6	2
MZ9	103 3 1302 00811	Screw, Pan Hd. Tapping-2, +M2.0x8	3
MZ10	103 3 1702 00811	Screw, Bind Hd. Tapping-2, +M2.0x8	2
MZ11	143 3 1702 60811	Screw, Bind Hd. Tapping-B, +M2.6x8	8
MZ12	143 3 1702 61011	Screw, Bind Hd. Tapping-B, +M2.6x10	2
MZ13	112 3 1301 20082	E Ring, M1.2	1
MZ14	112 3 1302 00082	E Ring, M2.0	2
MZ15	112 3 1304 00082	E Ring, M4.0	2
MZ16	112 3 1706 30040	Grip Ring, M6.3	2
	TAPE A ONLY		
MC74	141 2 8219 28500	Guide Tape	1
MC75	141 2 3529 27500	Spacer Head	1
MC76	4 2429 72191	Play Head (TAPE A) [HD1]	1
MC77	141 2 8529 05800	Spring Lever Lock	1
MC78	141 2 7419 76500	Lever Lock	1
MC79	141 2 7519 55300	Spindle Lever Lock	1
MC80	4 2649 70610	ASF Solenoid [SL1]	1
MC81	141 2 3769 12100	Spacer Plunger	1
MC82	141 2 1659 25100	Button High Speed	1
MC83	4 2319 74990	Leaf Switch (ASF) [S13]	1
	TAPE B ONLY		
MC84	141 2 8519 97300	Spring Interlock	1
MC85	141 2 8419 10400	Lever Interlock	1
MC86	141 2 3529 29400	Spacer Head	1
MC87	4 2429 72200	Erase Head (TAPE B) [HD3]	1
MC88	4 2429 72190	R/P Head (TAPE B) [HD2]	1
MC89	141 2 1659 25000	Button Record	1

NOTE:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

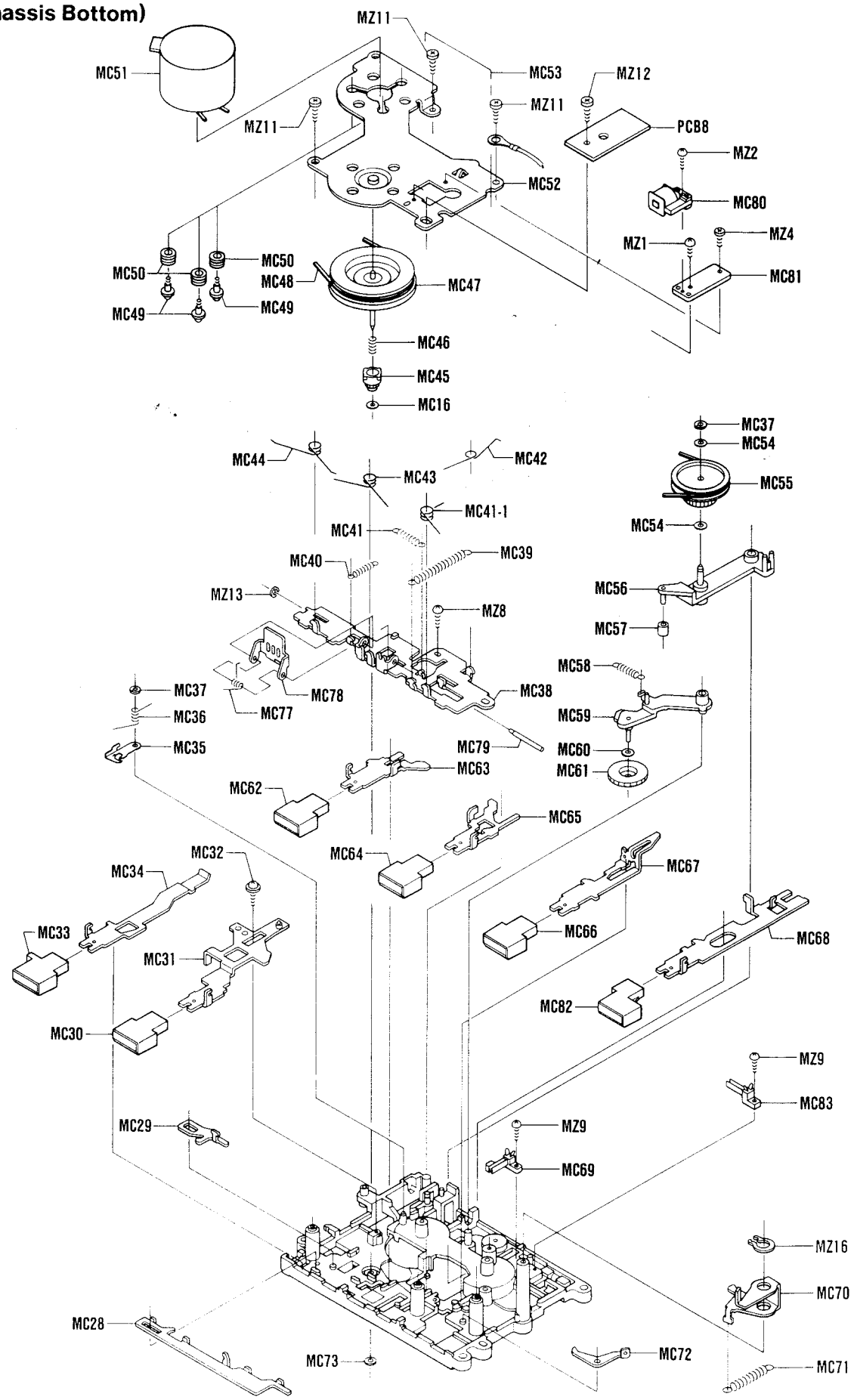
MECHANISM EXPLODED VIEW

TAPE A (Chassis Top)



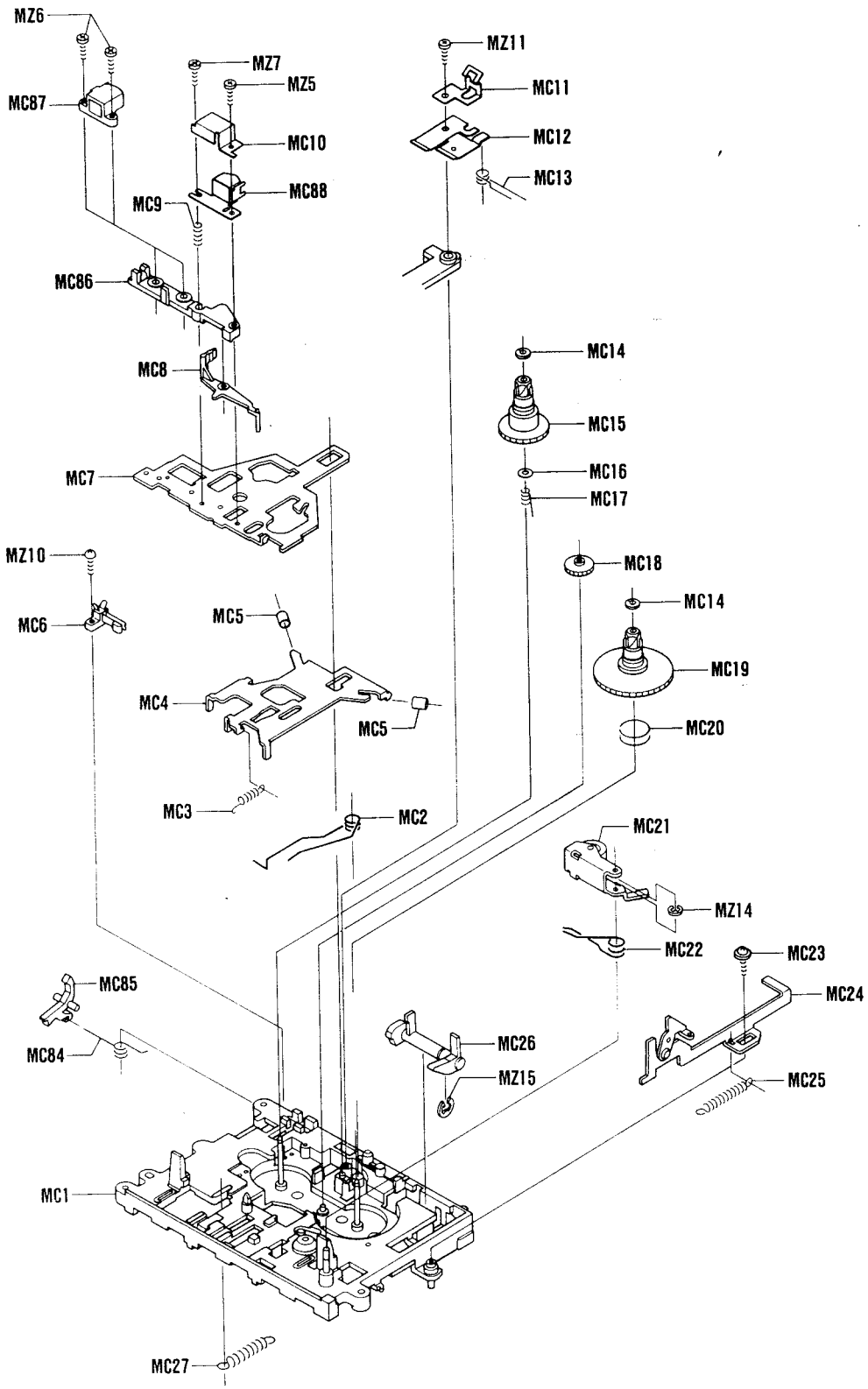
MECHANISM EXPLODED VIEW(Continued)

TAPE A (Chassis Bottom)



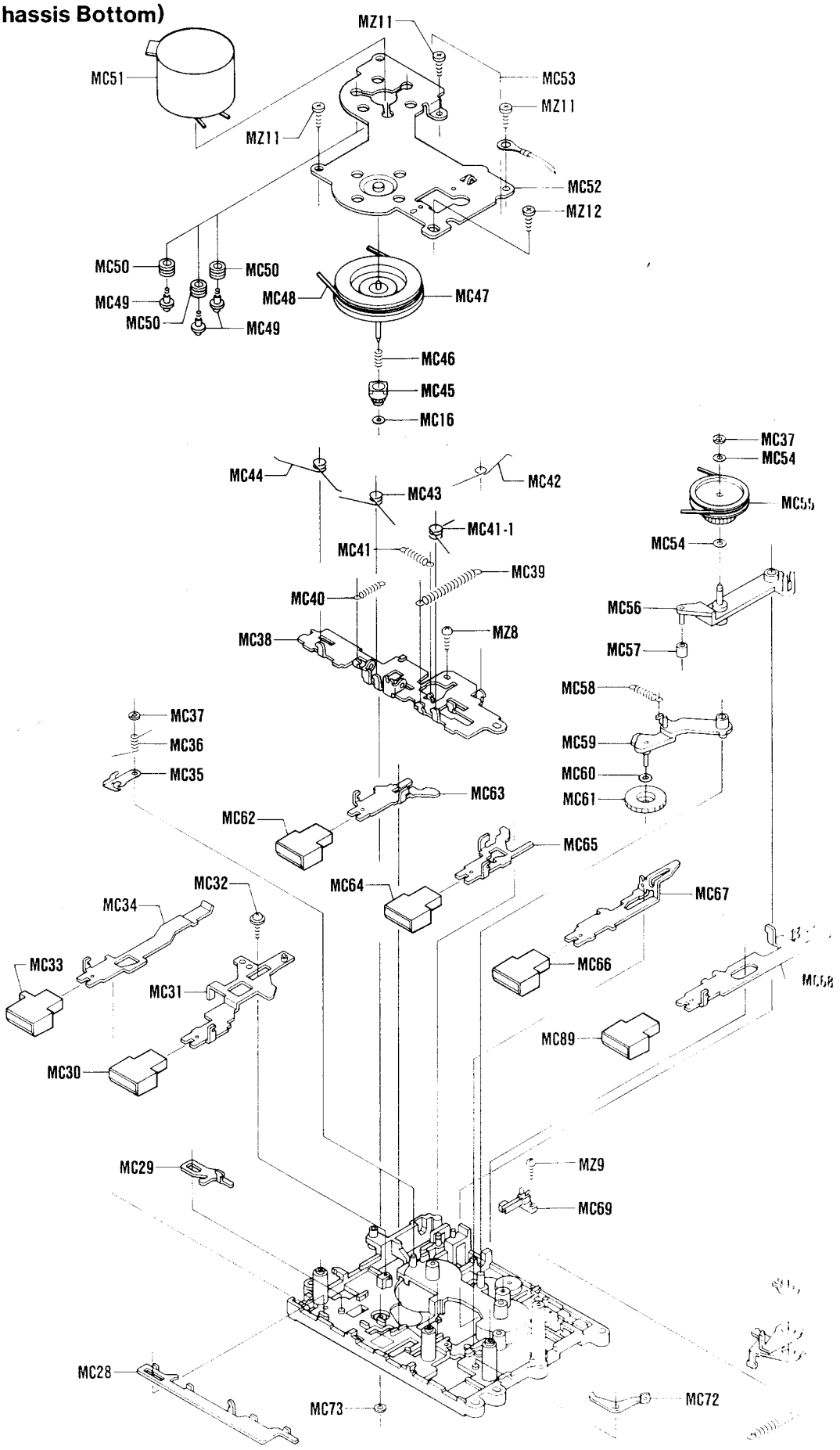
MECHANISM EXPLODED VIEW (Continued)

TAPE B (Chassis Top)



MECHANISM EXPLODED VIEW(Continued)

TAPE B (Chassis Bottom)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
PCB1	141 0 1939 03242	Amplifier P.C.B. Assy	1
	4 2439 71572	Flat Wire 5	1
	141 2 3689 10000	Radiator IC (for IC304)	1
	143 3 1702 60811	Screw, Bind Hd. Tapping-B, +M2.6x8	2
CN1	4 2359 75902	Connector 4P Assy	1
CN3	4 2369 73370	Connector 4P	1
CN4	4 2369 73400	Connector 10P	1
CN5	4 2369 73360	Connector 3P	1
CN6	4 2369 73672	Plug 2P	1
S2	4 2319 73904	Slide Switch (Record/Play)	1
S3	4 2319 75950	Slide Switch (High Speed Dubbing)	1
S4	4 2319 75713	Push Switch (REC MUTE)	1
S5	4 2319 75900	Push Switch (AUTO DUBBING)	1
S6	4 2319 76361	Push Switch (TAPE SELECT, TAPE B)	1
S7	4 2319 75712	Push Switch (TAPE SELECT, TAPE A)	1
S8	4 2319 76800	Lever Switch (FUNCTION)	1
S9	4 2319 76810	Lever Switch (MODE)	1
S10	4 2319 75590	Slide Switch (BEAT CANCEL)	1
J301	4 2359 71781	1P Jack (Mixing)	1
J302	4 2352 01951	Pin Jack 2P (LINE IN)	1
J303	4 2359 75800	Jack 5P (Headphones)	1
L101	4 2729 70480	Coil (33mH)	1
L102	4 2729 70700	Coil (3.3mH)	1
L201	4 2729 70480	Coil (33mH)	1
L202	4 2729 70700	Coil (3.3mH)	1
L301	4 2539 70301	Micro Inductor (100μH)	1
T301	4 2589 72221	OSC Trans	1
VR1	4 2229 74030	Rotary Volume (B-20kΩ, MIXING)	1
P301	4 2229 72960	Potentiometer (B-200Ω)	1
P302	4 2229 72960	Potentiometer (B-200Ω)	1
IC301	206 5 0793 16020	IC, LA 3160 T	1
IC302	206 5 0793 16020	IC, LA 3160 T	1
IC303	206 5 0593 22010	IC, LA 3220	1
IC304	206 5 1984 50510	IC, LA 4505	1
IC305	4 2069 72970	IC, TC9167P	1
Q102	4 2039 71231	Transistor, 2SD 1469	1
Q103	203 5 5083 33165	Transistor, 2SC 3331	1
Q202	4 2039 71231	Transistor, 2SD 1469	1
Q203	203 5 5083 33165	Transistor, 2SC 3331	1
Q301	4 2039 71040	Transistor, JC 501	1
Q302	4 2039 71040	Transistor, JC 501	1
Q303	4 2039 71040	Transistor, JC 501	1
Q304	203 5 5083 33165	Transistor, 2SC 3331	1
Q305	203 5 5083 33165	Transistor, 2SC 3331	1
Q306	203 5 7200 60860	Transistor, 2SA 608	1
Q307	4 2039 71040	Transistor, JC 501	1
Q308	203 5 5083 33165	Transistor, 2SC 3331	1
Q309	203 5 6900 40060	Transistor, 2SD 400	1
Q310	203 5 6900 40060	Transistor, 2SD 400	1
Q311	203 5 5083 33165	Transistor, 2SC 3331	1
Q312	4 2039 71040	Transistor, JC 501	1
Q313	203 5 6900 40060	Transistor, 2SD 400	1
Q314	203 5 5083 33165	Transistor, 2SC 3331	1
Q315	4 2039 71040	Transistor, JC 501	1
Q316	4 2039 71040	Transistor, JC 501	1
Q317	4 2039 71040	Transistor, JC 501	1
Q318	203 5 5083 33165	Transistor, 2SC 3331	1
D101	202 5 1420 00128	Diode, GMA 01	1
D102	202 5 1420 00128	Diode, GMA 01	1
D103	202 5 1420 00128	Diode, GMA 01	1
D201	202 5 1420 00128	Diode, GMA 01	1
D202	202 5 1420 00128	Diode, GMA 01	1
D203	202 5 1420 00128	Diode, GMA 01	1

Ref. No.	Part No.	Description			Q'ty
D301	202 5 1420 00128	Diode, GMA 01			1
D302	202 5 1420 00128	Diode, GMA 01			1
D303	202 5 1420 00128	Diode, GMA 01			1
D304	202 5 2810 44210	Diode, DS 442			1
D306	4 2029 72191	MTZ 11			1
D307	202 5 9110 18820	Diode, 1S 188			1
D308	4 2029 72191	MTZ 11			1
D309	4 2029 72471	Zener DIODE,MTZ7.5C			1
D310	202 5 1420 00128	Diode, GMA 01			1
D311	202 5 1420 00128	Diode, GMA 01			1
D313	202 5 1420 00128	Diode, GMA 01			1
D317	202 5 1420 00128	Diode, GMA 01			1
C101	CD1 0 4500 0001V	Electrolytic	0.1μF	50V	1
C102	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C103	CC1 2 1500 KE01R	Ceramic	120pF	50V ±10%	1
C105	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C106	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C107	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C108	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C109	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C110	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C111	CM3 3 3500 K00SV	Mylar	0.033μF	50V ±10%	1
C112	CM3 3 3500 K00SV	Mylar	0.033μF	50V ±10%	1
C113	CC8 2 1500 KE01R	Ceramic	820pF	50V ±10%	1
C114	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C115	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C116	CC5 6 1500 KE01R	Ceramic	560pF	50V ±10%	1
C117	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C118	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C119	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C120	CC4 7 1500 KE01R	Ceramic	470pF	50V ±10%	1
C121	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C122	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C123	CD4 7 4500 0001V	Electrolytic	0.47μF	50V	1
C124	CM3 9 3500 K00SV	Mylar	0.039μF	50V ±10%	1
C125	CM1 8 3500 K00SV	Mylar	0.018μF	50V ±10%	1
C126	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C127	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C128	CI2 2 2160 NF01R	Boundary	0.0022μF	16V ±30%	1
C129	CC6 8 1500 KE01R	Ceramic	680pF	50V ±10%	1
C130	CD1 0 4500 0001V	Electrolytic	0.1μF	50V	1
C134	CC1 0 2500 KE01R	Ceramic	0.001μF	50V ±10%	1
C135	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C136	CC4 7 0500 JD01R	Ceramic	47pF	50V ±5%	1
C137	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C138	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C139	4 2239 70650	Capacitor	2200μF	10V	1
C140	CM1 5 4500 J00TV	Mylar	0.15μF	50V ±5%	1
C141	CC3 3 1500 KE01R	Ceramic	330pF	50V ±10%	1
C142	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C201	CD1 0 4500 0001V	Electrolytic	0.1μF	50V	1
C202	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C203	CC1 2 1500 KE01R	Ceramic	120pF	50V ±10%	1
C205	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C206	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C207	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C208	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C209	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C210	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C211	CM3 3 3500 K00SV	Mylar	0.033μF	50V ±10%	1
C212	CM3 3 3500 K00SV	Mylar	0.033μF	50V ±10%	1
C213	CC8 2 1500 KE01R	Ceramic	820pF	50V ±10%	1
C214	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C215	CD1 0 6160 0001V	Electrolytic	10μF	16V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
C216	CC5 6 1500 KE01R	Ceramic	560pF	50V ±10%	1
C217	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C218	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C219	CC3 9 1500 KE01R	Ceramic	390pF	50V ±10%	1
C220	CC4 7 1500 KE01R	Ceramic	470pF	50V ±10%	1
C221	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C222	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C223	CD4 7 4500 0001V	Electrolytic	0.47μF	50V	1
C224	CM3 9 3500 K00SV	Mylar	0.039μF	50V ±10%	1
C225	CM1 8 3500 K00SV	Mylar	0.018μF	50V ±10%	1
C226	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C227	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C228	CI2 2 2160 NF01R	Boundary	0.0022μF	16V ±30%	1
C229	CC6 8 1500 KE01R	Ceramic	680pF	50V ±10%	1
C230	CD1 0 4500 0001V	Electrolytic	0.1μF	50V	1
C234	CC1 0 2500 KE01R	Ceramic	0.001μF	50V ±10%	1
C235	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C236	CC4 7 0500 JD01R	Ceramic	47pF	50V ±5%	1
C237	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C238	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C239	4 2239 70650	Capacitor	2200μF	10V	1
C240	CM1 5 4500 J00TV	Mylar	0.15μF	50V ±5%	1
C241	CC3 3 1500 KE01R	Ceramic	330pF	50V ±10%	1
C242	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C301	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C302	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C303	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C304	CD2 2 7100 0006V	Electrolytic	220μF	10V	1
C305	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C306	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C307	CD4 7 4500 0001V	Electrolytic	0.47μF	50V	1
C308	CC4 7 1500 KE01R	Ceramic	470pF	50V ±10%	1
C309	CD1 0 5500 0001V	Electrolytic	1μF	50V	1
C310	CC1 5 1500 KE01R	Ceramic	150pF	50V ±10%	1
C311	CD4 7 4500 0001V	Electrolytic	0.47μF	50V	1
C313	CD3 3 7100 0001V	Electrolytic	330μF	10V	1
C314	CD3 3 6100 0001V	Electrolytic	33μF	10V	1
C315	CC2 2 2500 KE00C	Ceramic	0.0022μF	50V ±10%	1
C316	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C317	CD4 7 4500 0001V	Electrolytic	0.47μF	50V	1
C318	CD2 2 4500 0001V	Electrolytic	0.22μF	50V	1
C319	CD2 2 6100 0001V	Electrolytic	22μF	10V	1
C320	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C321	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C322	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C323	CD2 2 7100 0001V	Electrolytic	220μF	10V	1
C324	CD4 7 7100 0001V	Electrolytic	470μF	10V	1
C325	CD2 2 7100 0001V	Electrolytic	220μF	10V	1
C326	CD4 7 6100 0001V	Electrolytic	47μF	10V	1
C327	CD1 0 7160 0001V	Electrolytic	100μF	16V	1
C328	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C329	CD1 0 6160 0001V	Electrolytic	10μF	16V	1
C330	CD4 7 7160 0001V	Electrolytic	470μF	16V	1
C331	CC6 8 1500 JD00C	Ceramic	680pF	50V ±5%	1
C332	CM2 2 2500 J00BV	Mylar	0.0022μF	50V ±5%	1
C333	CM2 2 3500 K00SV	Mylar	0.022μF	50V ±10%	1
C334	CM6 8 2500 K00SV	Mylar	0.0068μF	50V ±10%	1
C335	CP3 3 2101 J001V	Polypropylen	0.0033μF	100V ±5%	1
C336	CM3 3 2500 K00SV	Mylar	0.0033μF	50V ±10%	1
C337	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C338	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C341	CC1 0 1500 KE01R	Ceramic	100pF	50V ±10%	1
C342	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80-20%	1
C345	CD4 7 763A 0001V	Electrolytic	470μF	6.3V	1

Ref. No.	Part No.	Description			Q'ty
C347	CC1 0 3500 ZG00C	Ceramic	0.01μF	50V +80-20%	1
C348	CM3 3 2500 K00SV	Mylar	0.0033μF	50V ±10%	1
R101	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R102	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R104	RP5 6 2121 JH000	Carbon	5.6kΩ	1/8W ±5%	1
R105	RP6 8 0121 JH000	Carbon	68Ω	1/8W ±5%	1
R106	RP1 8 2121 JH000	Carbon	1.8kΩ	1/8W ±5%	1
R107	RP2 7 2121 JH000	Carbon	2.7kΩ	1/8W ±5%	1
R108	RP1 0 4121 JH000	Carbon	100kΩ	1/8W ±5%	1
R109	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R110	RP2 7 2121 JH000	Carbon	2.7kΩ	1/8W ±5%	1
R111	RP6 8 0121 JH000	Carbon	68Ω	1/8W ±5%	1
R112	RP1 8 2121 JH000	Carbon	1.8kΩ	1/8W ±5%	1
R113	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R114	RP1 2 2121 JH000	Carbon	1.2kΩ	1/8W ±5%	1
R115	RP1 0 4121 JH000	Carbon	100kΩ	1/8W ±5%	1
R116	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R117	RP2 7 2121 JH000	Carbon	2.7kΩ	1/8W ±5%	1
R118	RD5 6 2251 JM000	Carbon	5.6kΩ	1/4W ±5%	1
R120	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R121	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R122	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R123	RP1 0 4121 JH000	Carbon	100kΩ	1/8W ±5%	1
R124	RP6 8 2121 JH000	Carbon	6.8kΩ	1/8W ±5%	1
R125	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R126	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W ±5%	1
R127	RP5 1 3121 JH000	Carbon	51kΩ	1/8W ±5%	1
R128	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R129	RD2 2 2251 JM000	Carbon	2.2kΩ	1/4W ±5%	1
R130	RP4 7 1121 JH000	Carbon	470Ω	1/8W ±5%	1
R131	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W ±5%	1
R132	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W ±5%	1
R133	RP1 8 1121 JH000	Carbon	180Ω	1/8W ±5%	1
R134	RP8 2 0121 JH000	Carbon	82Ω	1/8W ±5%	1
R135	RP8 2 1121 JH000	Carbon	820Ω	1/8W ±5%	1
R136	RP2 2 4121 JH000	Carbon	220kΩ	1/8W ±5%	1
R137	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R138	RD3 3 3251 JM000	Carbon	33kΩ	1/4W ±5%	1
R139	RD3 3 3251 JM000	Carbon	33kΩ	1/4W ±5%	1
R141	RP1 2 1121 JH000	Carbon	120Ω	1/8W ±5%	1
R142	RP3 0 3121 JH000	Carbon	30kΩ	1/8W ±5%	1
R143	RP3 3 3121 JH000	Carbon	33kΩ	1/8W ±5%	1
R144	RP8 2 2121 JH000	Carbon	8.2kΩ	1/8W ±5%	1
R145	RD8 2 2251 JM000	Carbon	8.2kΩ	1/4W ±5%	1
R201	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R202	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R204	RP5 6 2121 JH000	Carbon	5.6kΩ	1/8W ±5%	1
R205	RP6 8 0121 JH000	Carbon	68Ω	1/8W ±5%	1
R206	RP1 8 2121 JH000	Carbon	1.8kΩ	1/8W ±5%	1
R207	RP2 7 2121 JH000	Carbon	2.7kΩ	1/8W ±5%	1
R208	RP1 0 4121 JH000	Carbon	100kΩ	1/8W ±5%	1
R209	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R210	RP2 7 2121 JH000	Carbon	2.7kΩ	1/8W ±5%	1
R211	RP6 8 0121 JH000	Carbon	68Ω	1/8W ±5%	1
R212	RP1 8 2121 JH000	Carbon	1.8kΩ	1/8W ±5%	1
R213	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R214	RP1 2 2121 JH000	Carbon	1.2kΩ	1/8W ±5%	1
R215	RP1 0 4121 JH000	Carbon	100kΩ	1/8W ±5%	1
R216	RD1 0 2251 JM000	Carbon	1kΩ	1/4W ±5%	1
R217	RP2 7 2121 JH000	Carbon	2.7kΩ	1/8W ±5%	1
R218	RD5 6 2251 JM000	Carbon	5.6kΩ	1/4W ±5%	1
R220	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R221	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R222	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
R223	RP1 0 4121 JH000	Carbon	100kΩ	1/8W ±5%	1
R224	RP6 8 2121 JH000	Carbon	6.8kΩ	1/8W ±5%	1
R225	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R226	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W ±5%	1
R227	RP5 1 3121 JH000	Carbon	51kΩ	1/8W ±5%	1
R228	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R229	RD2 2 2251 JM000	Carbon	2.2kΩ	1/4W ±5%	1
R230	RP4 7 1121 JH000	Carbon	470Ω	1/8W ±5%	1
R231	RD4 7 2251 JM000	Carbon	4.7kΩ	1/4W ±5%	1
R232	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R233	RP1 8 1121 JH000	Carbon	180Ω	1/8W ±5%	1
R234	RP8 2 0121 JH000	Carbon	82Ω	1/8W ±5%	1
R235	RP8 2 1121 JH000	Carbon	820Ω	1/8W ±5%	1
R236	RP2 2 4121 JH000	Carbon	220kΩ	1/8W ±5%	1
R237	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R238	RD3 3 3251 JM000	Carbon	33kΩ	1/4W ±5%	1
R239	RD3 3 3251 JM000	Carbon	33kΩ	1/4W ±5%	1
R241	RP1 2 1121 JH000	Carbon	120Ω	1/8W ±5%	1
R242	RP3 0 3121 JH000	Carbon	30kΩ	1/8W ±5%	1
R243	RP3 3 3121 JH000	Carbon	33kΩ	1/8W ±5%	1
R244	RP8 2 2121 JH000	Carbon	8.2kΩ	1/8W ±5%	1
R245	RD8 2 2251 JM000	Carbon	8.2kΩ	1/4W ±5%	1
R301	RP2 2 2121 JH000	Carbon	2.2kΩ	1/8W ±5%	1
R302	RP3 3 1121 JH000	Carbon	330Ω	1/8W ±5%	1
R303	RD3 3 1251 JM000	Carbon	330Ω	1/4W ±5%	1
R304	RP4 7 2121 JH000	Carbon	4.7kΩ	1/8W ±5%	1
R305	RP2 2 1121 JH000	Carbon	220Ω	1/8W ±5%	1
R306	RP3 3 3121 JH000	Carbon	33kΩ	1/8W ±5%	1
R307	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R308	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R309	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R310	RD1 5 4251 JM000	Carbon	150kΩ	1/4W ±5%	1
R311	RD3 3 2251 JM000	Carbon	3.3kΩ	1/4W ±5%	1
R312	RP4 7 4121 JH000	Carbon	470kΩ	1/8W ±5%	1
R313	RD1 0 0251 JM000	Carbon	10Ω	1/4W ±5%	1
R314	RP2 2 2121 JH000	Carbon	2.2kΩ	1/8W ±5%	1
R315	RP3 3 4121 JH000	Carbon	330kΩ	1/8W ±5%	1
R316	RP3 3 0121 JH000	Carbon	33Ω	1/8W ±5%	1
R317	RP5 6 1121 JH000	Carbon	560Ω	1/8W ±5%	1
R318	RD2 2 1251 JM000	Carbon	220Ω	1/4W ±5%	1
R319	RD3 3 5251 JM000	Carbon	3.3MΩ	1/4W ±5%	1
R320	RD1 5 3251 JM000	Carbon	15kΩ	1/4W ±5%	1
R321	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R322	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R323	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R324	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R325	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R326	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R327	RP1 5 2121 JH000	Carbon	1.5kΩ	1/8W ±5%	1
R328	RP1 8 4121 JH000	Carbon	180kΩ	1/8W ±5%	1
R330	RP4 7 3121 JH000	Carbon	47kΩ	1/8W ±5%	1
R331	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R332	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R333	RP3 3 3121 JH000	Carbon	33kΩ	1/8W ±5%	1
R334	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R335	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R336	RP2 7 1121 JH000	Carbon	270Ω	1/8W ±5%	1
R338	RD1 0 2251 JM000	Carbon	1kΩ	1/4W ±5%	1
R339	RP1 0 1121 JH000	Carbon	100Ω	1/8W ±5%	1
R340	RD1 5 3251 JM000	Carbon	15kΩ	1/4W ±5%	1
R341	RD1 8 1251 JM000	Carbon	180Ω	1/4W ±5%	1
R342	RP1 2 1121 JH000	Carbon	120Ω	1/8W ±5%	1
R343	4 2219 70240	Resistor	1.2kΩ	1/4W ±5%	1
R345	RP4 7 0121 JH000	Carbon	47Ω	1/8W ±5%	1

Ref. No.	Part No.	Description			Q'ty
R346	RD4 3 1251 JM000	Carbon	430Ω	1/4W ±5%	1
R347	RD4 3 1251 JM000	Carbon	430Ω	1/4W ±5%	1
R348	RD2 2 3251 JM000	Carbon	22kΩ	1/4W ±5%	1
R349	RP4 7 3121 JH000	Carbon	47kΩ	1/8W ±5%	1
R350	RP4 7 0121 JH000	Carbon	47Ω	1/8W ±5%	1
R351	RP3 3 1121 JH000	Carbon	330Ω	1/8W ±5%	1
R352	RD4 3 1251 JM000	Carbon	430Ω	1/4W ±5%	1
R353	RD4 3 1251 JM000	Carbon	430Ω	1/4W ±5%	1
R354	RP4 7 0121 JH000	Carbon	47Ω	1/8W ±5%	1
R355	RD6 8 1251 JM000	Carbon	680Ω	1/4W ±5%	1
R356	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R357	RP1 2 1121 JH000	Carbon	120Ω	1/8W ±5%	1
R358	RD1 8 1251 JM000	Carbon	180Ω	1/4W ±5%	1
R359	4 2219 70240	Resistor	1.2kΩ	1/4W ±5%	1
R360	RP6 8 2121 JH000	Carbon	6.8kΩ	1/8W ±5%	1
R361	RD1 2 2251 JM000	Carbon	1.2kΩ	1/4W ±5%	1
R362	RP2 2 2121 JH000	Carbon	2.2kΩ	1/8W ±5%	1
R363	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R364	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R365	RP2 2 A121 JH000	Carbon	2.2Ω	1/8W ±5%	1
R366	RD1 5 3251 JM000	Carbon	15kΩ	1/4W ±5%	1
R367	RD1 0 1251 JM000	Carbon	100Ω	1/4W ±5%	1
R368	RD4 7 3251 JM000	Carbon	47kΩ	1/4W ±5%	1
R369	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R370	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R371	RP6 8 0121 JH000	Carbon	68Ω	1/8W ±5%	1
R373	RP2 2 A121 JH000	Carbon	2.2Ω	1/8W ±5%	1
R374	RD8 2 0251 JM000	Carbon	82Ω	1/4W ±5%	1

RADIO TUNER P.C.B. ASSY

PCB2	4 1259 71934	Radio Tuner P.C.B. Assy	1
TP1	4 2369 73783	Pin 1P	1
TP2	4 2369 73781	Pin 1P	1
TP3	4 2369 73781	Pin 1P	1
CN1	4 2369 73370	Connector 4P	1
CN2	4 2369 73790	Connector 2P	1
S1	4 2319 75800	Slide Switch (BAND SELECT)	1
L1	4 2599 70810	RF Coil	1
L2	4 2589 71951	OSC Trans	1
L3	4 2539 71350	Choke Coil	1
T1	4 2569 71631	IFT FM	1
T2	4 2569 71353	IFT AM	1
T3	4 2569 71340	IFT FM	1
T4	4 2579 70722	Antenna Coil	1
T5	4 2589 71422	OSC Trans	1
T6	4 2589 71410	OSC Trans	1
T7	4 2589 71400	OSC Trans	1
PT1	4 2229 73620	Potentiometer (B-10kΩ)	1
PVC1	4 2249 70791	Variable Condenser	1
CF1	4 2539 70881	Ceramic Filter	1
CF2	4 2539 70881	Ceramic Filter	1
CF3	4 2539 70682	Mechanical Filter	1
IC1	4 2069 73770	IC BA4410	1
IC2	4 2069 72962	IC BA4232AL	1
IC3	4 2069 72801	IC BA1335	1
Q1	4 2039 71201	Transistor, 2SC 2063	1
D1	4 2029 71440	Diode, 1SS 95	1
BA1	4 2579 71493	Bar Antenna	1
BPF1	4 2539 71021	Band Pass Filter	1
TC1	4 2249 70580	Trimmer Condenser	1
TC2	4 2249 70580	Trimmer Condenser	1
TC3	4 2249 70580	Trimmer Condenser	1
TC4	4 2249 70590	Trimmer Condenser	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
TC5	4 2249 70590	Trimmer Condenser				1
C1	CC1 0 0500 JD01R	Ceramic	10pF	50V	±5%	1
C2	CC2 0 0500 JD01R	Ceramic	20pF	50V	±5%	1
C3	CC1 0 2500 KE01R	Ceramic	0.001μF	50V	±10%	1
C4	CC1 0 2500 KE01R	Ceramic	0.001μF	50V	±10%	1
C5	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C6	CC1 5 0500 JD01R	Ceramic	15pF	50V	±5%	1
C7	CC5 6 A500 KD01R	Ceramic	5.6pF	50V	±10%	1
C8	CC2 0 0500 JD01R	Ceramic	20pF	50V	±5%	1
C9	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C10	CI2 2 3160 XG00R	Boundary	0.022μF	16V	+40,-20%	1
C11	CI2 2 3160 XG00R	Boundary	0.022μF	16V	+40,-20%	1
C12	CD4 7 5500 0001V	Electrolytic	4.7μF	50V		1
C13	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C14	CI2 2 3160 XG00R	Boundary	0.022μF	16V	+40,-20%	1
C15	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C16	CI4 7 3250 KF00C	Boundary	0.047μF	25V	±10%	1
C17	CD1 0 7100 0001V	Electrolytic	100μF	10V		1
C18	CI2 2 3160 XG00R	Boundary	0.022μF	16V	+40,-20%	1
C19	CD4 7 7100 0006V	Electrolytic	470μF	10V		1
C20	CC1 5 0500 JD00R	Ceramic	15pF	50V	±5%	1
C21	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C22	CC1 2 0500 JD01R	Ceramic	12pF	50V	±5%	1
C23	CC1 0 0500 JD01R	Ceramic	10pF	50V	±5%	1
C24	CC2 2 0500 JD01R	Ceramic	22pF	50V	±5%	1
C25	CI2 2 3160 XG00R	Boundary	0.022μF	16V	+40,-20%	1
C26	CP3 1 2101 J002V	Polypropylen	0.0031μF	100V	±5%	1
C27	CC8 2 A500 KD01R	Ceramic	8.2pF	50V	±10%	1
C28	CC5 6 A500 KD00R	Ceramic	5.6pF	50V	±10%	1
C29	CP3 5 1101 J002V	Polypropylen	350pF	100V	±5%	1
C30	CC1 8 0500 JD01R	Ceramic	18pF	50V	±5%	1
C31	CP2 0 1101 J002V	Polypropylen	200pF	100V	±5%	1
C32	CC1 0 1500 KE01R	Ceramic	100pF	50V	±10%	1
C33	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C34	CD1 0 5100 0001V	Electrolytic	1μF	10V		1
C35	CI4 7 3250 KF00C	Boundary	0.047μF	25V	±10%	1
C36	CP6 8 1101 J002V	Polypropylen	680pF	100V	±5%	1
C37	CD2 2 4100 0001V	Electrolytic	0.22μF	10V		1
C38	CD4 7 4100 0001V	Electrolytic	0.47μF	10V		1
C39	CD1 0 5100 0001V	Electrolytic	1μF	10V		1
C40	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C41	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C42	CD1 0 4500 0001V	Electrolytic	0.1μF	50V		1
C43	CD1 0 4500 0001V	Electrolytic	0.1μF	50V		1
C44	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C45	CI1 0 3160 NG01R	Boundary	0.01μF	16V	±30%	1
C46	CC1 0 0500 JD01R	Ceramic	10pF	50V	±5%	1
R1	RP3 3 4121 JH000	Carbon	330kΩ	1/8W	±5%	1
R2	RP1 0 3121 JH000	Carbon	10kΩ	1/8W	±5%	1
R3	RP3 3 4121 JH000	Carbon	330kΩ	1/8W	±5%	1
R4	RP4 7 3121 JH000	Carbon	47kΩ	1/8W	±5%	1
R5	RP3 9 2121 JH000	Carbon	3.9kΩ	1/8W	±5%	1
R6	RP1 0 1121 JH000	Carbon	100Ω	1/8W	±5%	1
R7	RP5 6 0121 JH000	Carbon	56Ω	1/8W	±5%	1
R8	RP6 8 4121 JH000	Carbon	680kΩ	1/8W	±5%	1
R9	RP5 6 0121 JH000	Carbon	56Ω	1/8W	±5%	1
R10	RP1 0 2121 JH000	Carbon	1kΩ	1/8W	±5%	1
R11	RP3 3 0121 JH000	Carbon	33Ω	1/8W	±5%	1
R12	RP1 5 3121 JH000	Carbon	15kΩ	1/8W	±5%	1
R13	RP1 0 2121 JH000	Carbon	1kΩ	1/8W	±5%	1
R14	RP4 7 1121 JH000	Carbon	470Ω	1/8W	±5%	1
R15	RP6 8 1121 JH000	Carbon	680Ω	1/8W	±5%	1
R16	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W	±5%	1
R17	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W	±5%	1
R18	RP1 5 3121 JH000	Carbon	15kΩ	1/8W	±5%	1
R19	RP1 5 3121 JH000	Carbon	15kΩ	1/8W	±5%	1
R20	RP1 0 3121 JH000	Carbon	10kΩ	1/8W	±5%	1
R21	RP2 4 0121 JH000	Carbon	24Ω	1/8W	±5%	1

VOLUME P.C.B. ASSY

PCB3	141 0 1939 03291	Volume P.C.B. Assy				1
VR2	4 2229 74021	Rotary Volume Unit				1
C131	CI4 7 3250 KF00C	Boundary	0.047μF	25V	±10%	1
C132	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V	±10%	1
C133	CI4 7 3250 KF00C	Boundary	0.047μF	25V	±10%	1
C231	CI4 7 3250 KF00C	Boundary	0.047μF	25V	±10%	1
C232	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V	±10%	1
C233	CI4 7 3250 KF00C	Boundary	0.047μF	25V	±10%	1
R140	RP3 9 2121 JH000	Carbon	3.9kΩ	1/8W	±5%	1
R240	RP3 9 2121 JH000	Carbon	3.9kΩ	1/8W	±5%	1

POWER SUPPLY P.C.B. ASSY

PCB4	141 0 1939 07381	Power Supply P.C.B. Assy				1
	4 2379 70650	Ring Terminal				1
	⚠ 4 2359 70910	Holder Fuse				2
	⚠ 4 2349 70140	Fuse (T 1A)				1
	141 2 4729 04700	Staple 10				1
J4	⚠ 4 2359 73682	AC/DC Power Socket				1
CN6	4 2359 77697	Connector 2P Assy				1
D401	202 5 2450 13541	Diode, DS135				1
D402	202 5 2450 13541	Diode, DS135				1
D403	202 5 2450 13541	Diode, DS135				1
D404	202 5 2450 13541	Diode, DS135				1
C401	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C402	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C403	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C404	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C405	CD2 2 8250 0001V	Electrolytic	2200μF	25V		1

ASF INDICATOR P.C.B. ASSY

PCB5	141 0 1939 03260	ASF Indicator P.C.B. Assy				1
CN4	4 2359 75208	Connector 10P Assy				1
D314	DYY - LA-4 01VP-	LED, LA 401 VP				1
R337	RP2 7 1121 JH000	Carbon	270Ω	1/8W	±5%	1

ASF SWITCH P.C.B. ASSY

PCB6	141 0 1939 03280	ASF Switch P.C.B. Assy				1
S11	4 2319 75560	Touch Switch (ASF PROGRAM)				1

LED INDICATOR P.C.B. ASSY

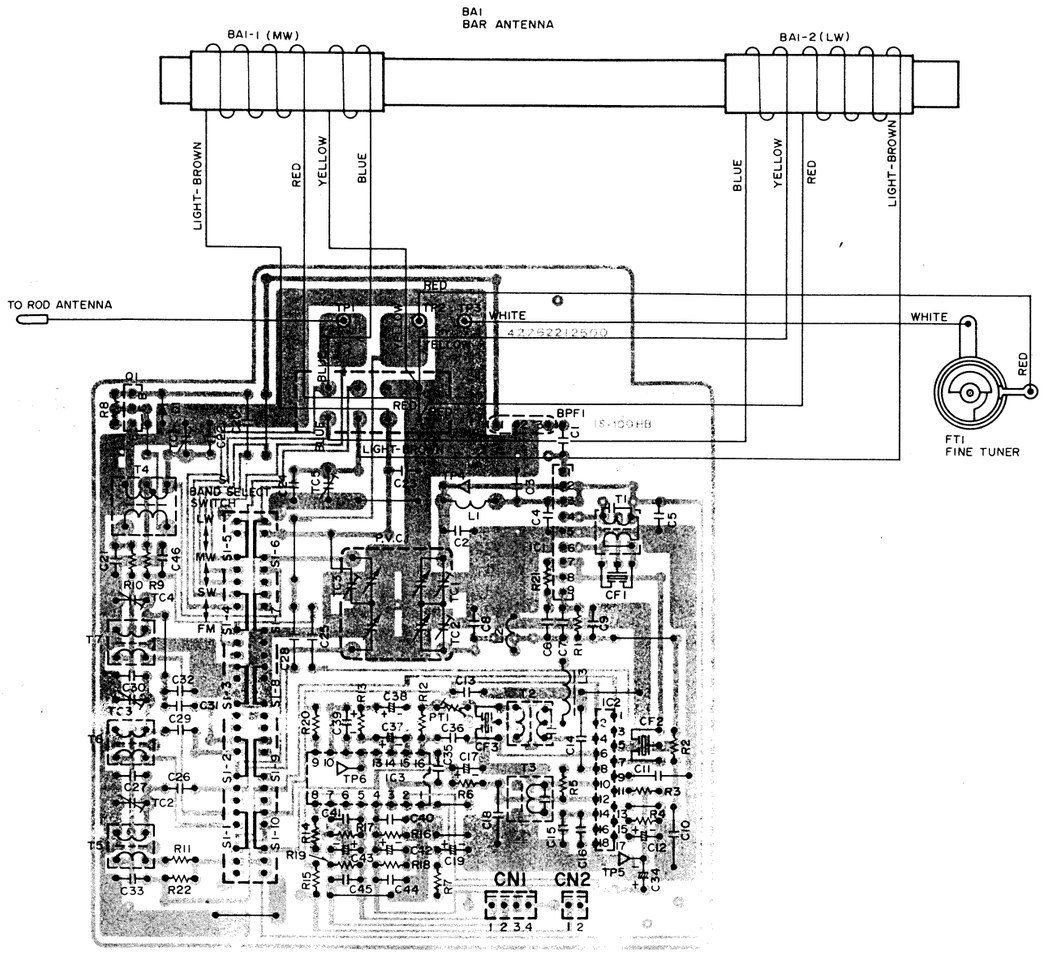
PCB7	141 0 1939 03250	LED Indicator P.C.B. Assy				1
CN2	4 2359 76941	Connector 2P Assy				1
D9	4 2029 71420	LED, SLP 155 B (FM STEREO)				1
D315	4 2029 71420	LED, SLP 155 B (AUTO DUBBING)				1
D316	4 2029 71420	LED, SLP 155 B (HIGH SPEED)				1

SUB P.C.B. ASSY

PCB8	141 0 1939 03270	Sub P.C.B. Assy				1
D312	202 5 9600 44610	Diode, DS 446				1

NOTE:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

RADIO TUNER P.C.BOARD



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description			Q'ty
TC5	4 2249 70590	Trimmer Condenser			1
C1	CC1 0 0500 JD01R	Ceramic	10pF	50V ±5%	1
C2	CC2 0 0500 JD01R	Ceramic	20pF	50V ±5%	1
C3	CC1 0 2500 KE01R	Ceramic	0.001μF	50V ±10%	1
C4	CC1 0 2500 KE01R	Ceramic	0.001μF	50V ±10%	1
C5	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C6	CC1 5 0500 JD01R	Ceramic	15pF	50V ±5%	1
C7	CC5 6 A500 KD01R	Ceramic	5.6pF	50V ±10%	1
C8	CC2 0 0500 JD01R	Ceramic	20pF	50V ±5%	1
C9	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C10	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C11	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C12	CD4 7 5500 0001V	Electrolytic	4.7μF	50V	1
C13	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C14	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C15	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C16	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C17	CD1 0 7100 0001V	Electrolytic	100μF	10V	1
C18	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C19	CD4 7 7100 0006V	Electrolytic	470μF	10V	1
C20	CC1 5 0500 JD00R	Ceramic	15pF	50V ±5%	1
C21	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C22	CC1 2 0500 JD01R	Ceramic	12pF	50V ±5%	1
C23	CC1 0 0500 JD01R	Ceramic	10pF	50V ±5%	1
C24	CC2 2 0500 JD01R	Ceramic	22pF	50V ±5%	1
C25	CI2 2 3160 XG00R	Boundary	0.022μF	16V +40,-20%	1
C26	CP3 1 2101 J002V	Polypropylen	0.0031μF	100V ±5%	1
C27	CC8 2 A500 KD01R	Ceramic	8.2pF	50V ±10%	1
C28	CC5 6 A500 KD00R	Ceramic	5.6pF	50V ±10%	1
C29	CP3 5 1101 J002V	Polypropylen	350pF	100V ±5%	1
C30	CC1 8 0500 JD01R	Ceramic	18pF	50V ±5%	1
C31	CP2 0 1101 J002V	Polypropylen	200pF	100V ±5%	1
C32	CC1 0 1500 KE01R	Ceramic	100pF	50V ±10%	1
C33	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C34	CD1 0 5100 0001V	Electrolytic	1μF	10V	1
C35	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C36	CP6 8 1101 J002V	Polypropylen	680pF	100V ±5%	1
C37	CD2 2 4100 0001V	Electrolytic	0.22μF	10V	1
C38	CD4 7 4100 0001V	Electrolytic	0.47μF	10V	1
C39	CD1 0 5100 0001V	Electrolytic	1μF	10V	1
C40	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C41	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C42	CD1 0 4500 0001V	Electrolytic	0.1μF	50V	1
C43	CD1 0 4500 0001V	Electrolytic	0.1μF	50V	1
C44	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C45	CI1 0 3160 NG01R	Boundary	0.01μF	16V ±30%	1
C46	CC1 0 0500 JD01R	Ceramic	10pF	50V ±5%	1
R1	RP3 3 4121 JH000	Carbon	330kΩ	1/8W ±5%	1
R2	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R3	RP3 3 4121 JH000	Carbon	330kΩ	1/8W ±5%	1
R4	RP4 7 3121 JH000	Carbon	47kΩ	1/8W ±5%	1
R5	RP3 9 2121 JH000	Carbon	3.9kΩ	1/8W ±5%	1
R6	RP1 0 1121 JH000	Carbon	100Ω	1/8W ±5%	1
R7	RP5 6 0121 JH000	Carbon	56Ω	1/8W ±5%	1
R8	RP6 8 4121 JH000	Carbon	680kΩ	1/8W ±5%	1
R9	RP5 6 0121 JH000	Carbon	56Ω	1/8W ±5%	1
R10	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R11	RP3 3 0121 JH000	Carbon	33Ω	1/8W ±5%	1
R12	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R13	RP1 0 2121 JH000	Carbon	1kΩ	1/8W ±5%	1
R14	RP4 7 1121 JH000	Carbon	470Ω	1/8W ±5%	1
R15	RP6 8 1121 JH000	Carbon	680Ω	1/8W ±5%	1
R16	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R17	RP3 3 2121 JH000	Carbon	3.3kΩ	1/8W ±5%	1
R18	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R19	RP1 5 3121 JH000	Carbon	15kΩ	1/8W ±5%	1
R20	RP1 0 3121 JH000	Carbon	10kΩ	1/8W ±5%	1
R21	RP2 4 0121 JH000	Carbon	24Ω	1/8W ±5%	1

VOLUME P.C.B. ASSY

PCB3	141 0 1939 03291	Volume P.C.B. Assy			1
VR2	4 2229 74021	Rotary Volume Unit			1
C131	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C132	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V ±10%	1
C133	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C231	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
C232	CC3 3 2500 KE00C	Ceramic	0.0033μF	50V ±10%	1
C233	CI4 7 3250 KF00C	Boundary	0.047μF	25V ±10%	1
R140	RP3 9 2121 JH000	Carbon	3.9kΩ	1/8W ±5%	1
R240	RP3 9 2121 JH000	Carbon	3.9kΩ	1/8W ±5%	1

POWER SUPPLY P.C.B. ASSY

PCB4	141 0 1939 07381	Power Supply P.C.B. Assy			1
	4 2379 70650	Ring Terminal			1
	⚠ 4 2359 70910	Holder Fuse			2
	⚠ 4 2349 70140	Fuse (T 1A)			1
	141 2 4729 04700	Staple 10			1
J4	⚠ 4 2359 73682	AC/DC Power Socket			1
CN6	4 2359 77697	Connector 2P Assy			1
D401	202 5 2450 13541	Diode, DS135			1
D402	202 5 2450 13541	Diode, DS135			1
D403	202 5 2450 13541	Diode, DS135			1
D404	202 5 2450 13541	Diode, DS135			1
C401	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C402	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C403	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C404	CC2 2 3500 ZG00C	Ceramic	0.022μF	50V +80,-20%	1
C405	CD2 2 8250 0001V	Electrolytic	2200μF	25V	1

ASF INDICATOR P.C.B. ASSY

PCB5	141 0 1939 03260	ASF Indicator P.C.B. Assy			1
CN4	4 2359 75208	Connector 10P Assy			1
D314	DYY - LA-4 01VP-	LED, LA 401 VP			1
R337	RP2 7 1121 JH000	Carbon	270Ω	1/8W ±5%	1

ASF SWITCH P.C.B. ASSY

PCB6	141 0 1939 03280	ASF Switch P.C.B. Assy	1
S11	4 2319 75560	Touch Switch (ASF PROGRAM)	1

LED INDICATOR P.C.B. ASSY

PCB7	141 0 1939 03250	LED Indicator P.C.B. Assy	1
CN2	4 2359 76941	Connector 2P Assy	1
D9	4 2029 71420	LED, SLP 155 B (FM STEREO)	1
D315	4 2029 71420	LED, SLP 155 B (AUTO DUBBING)	1
D316	4 2029 71420	LED, SLP 155 B (HIGH SPEED)	1

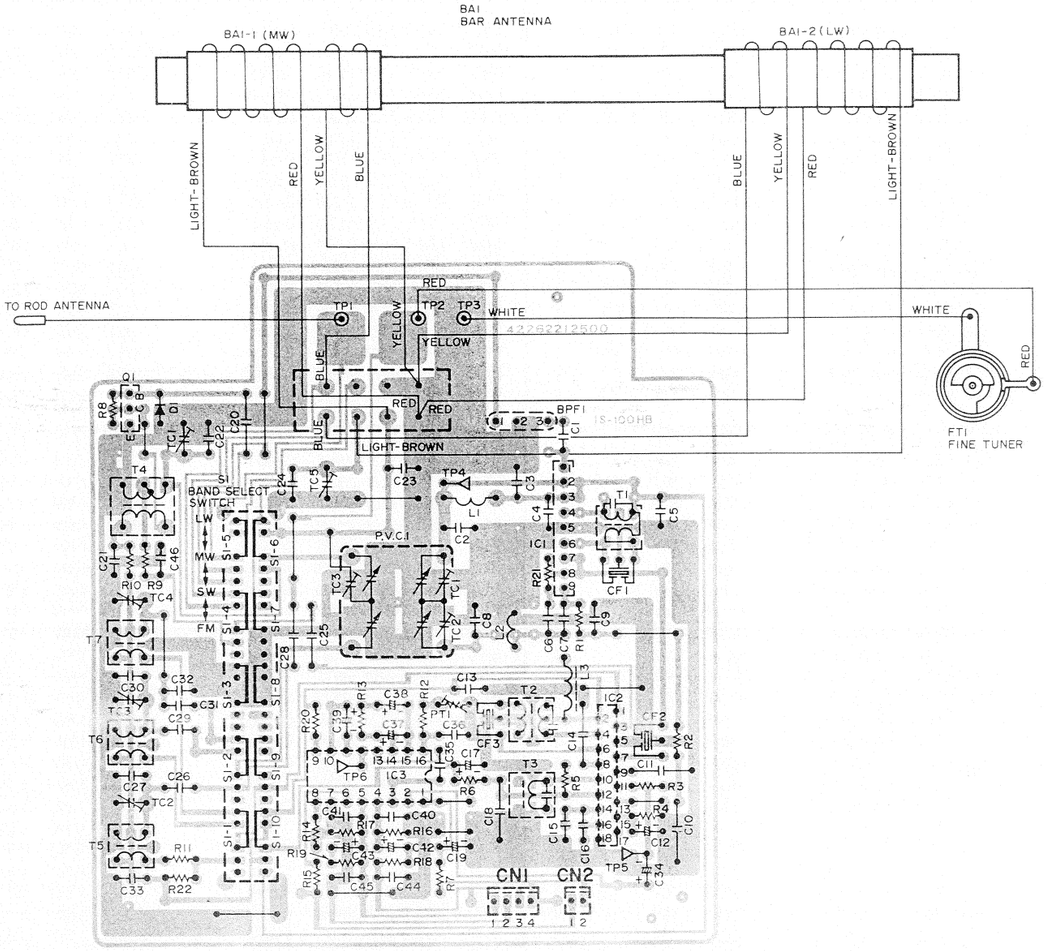
SUB P.C.B. ASSY

PCB8	141 0 1939 03270	Sub P.C.B. Assy	1
D312	202 5 9600 44610	Diode, DS 446	1

NOTE:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

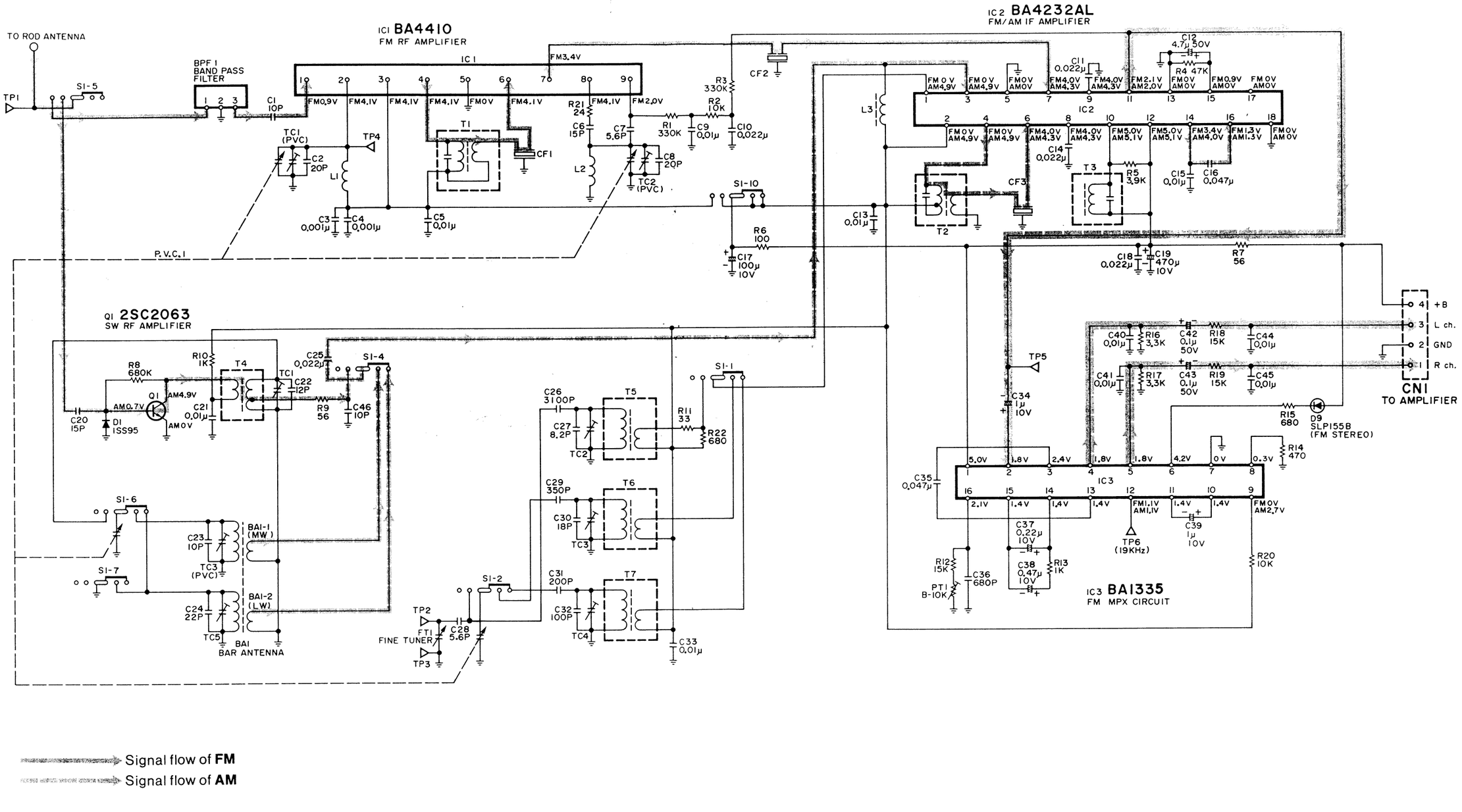
RADIO TUNER P.C.BOARD



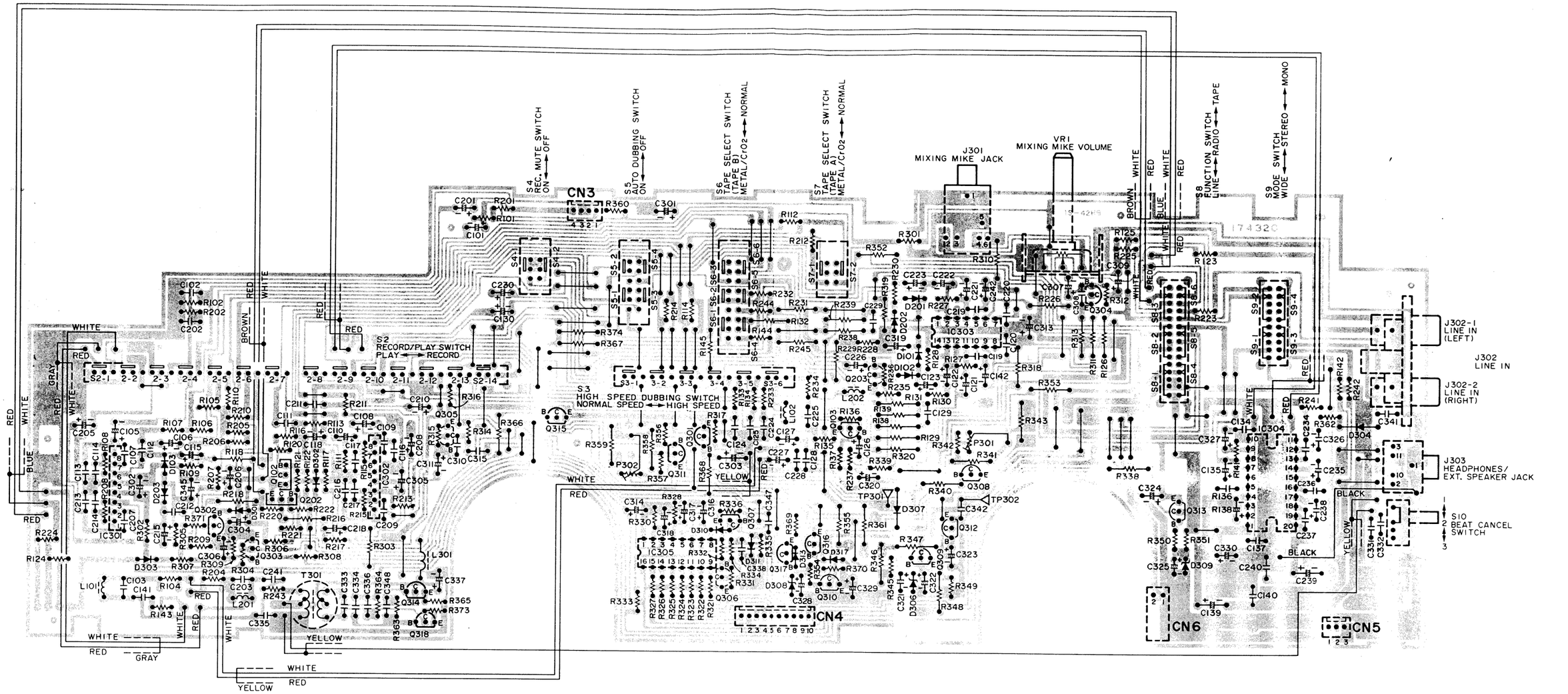
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

SCHEMATIC DIAGRAM (Tuner)



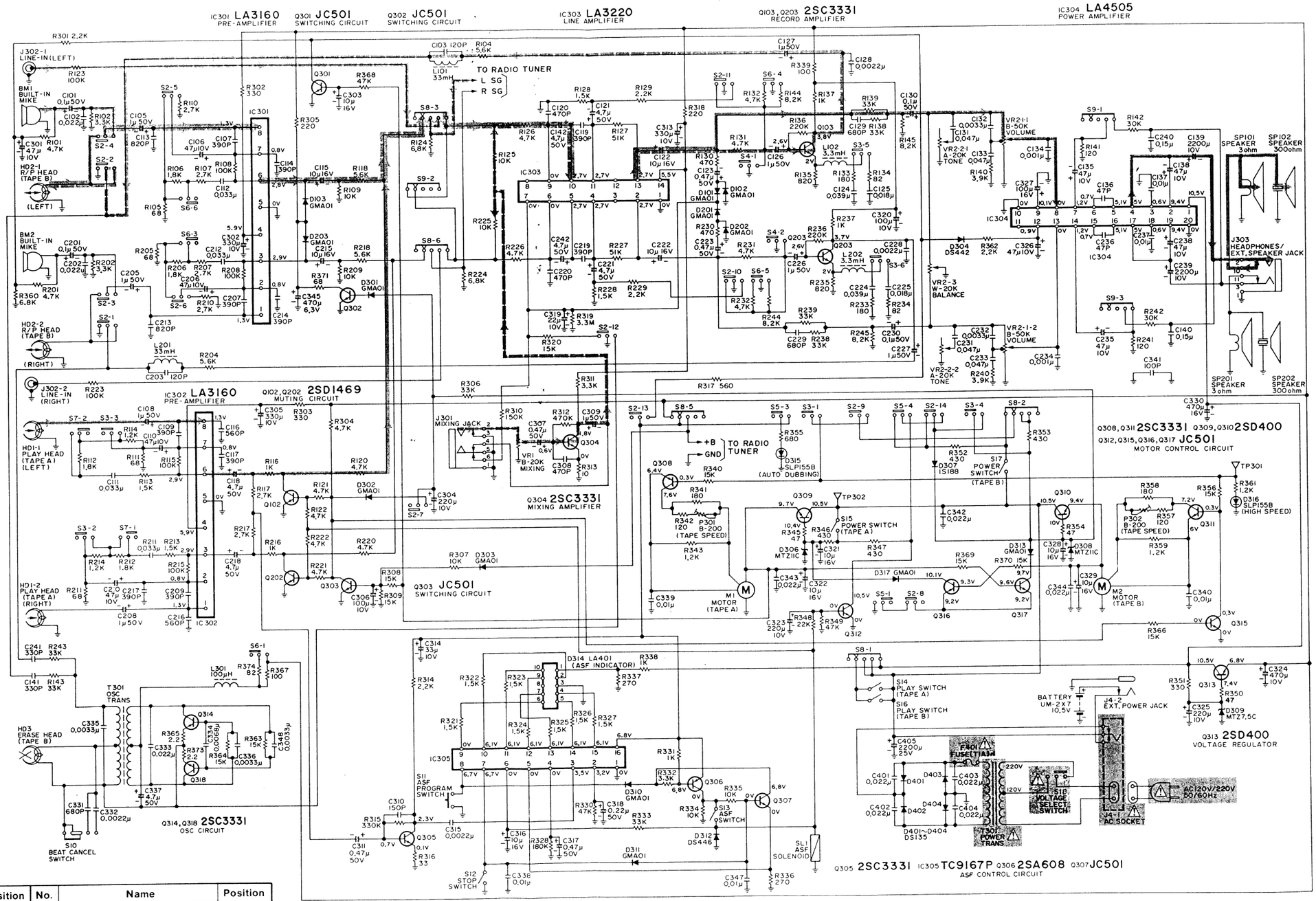
AMPLIFIER P.C.BOARD



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

SCHEMATIC DIAGRAM (Amplifier)

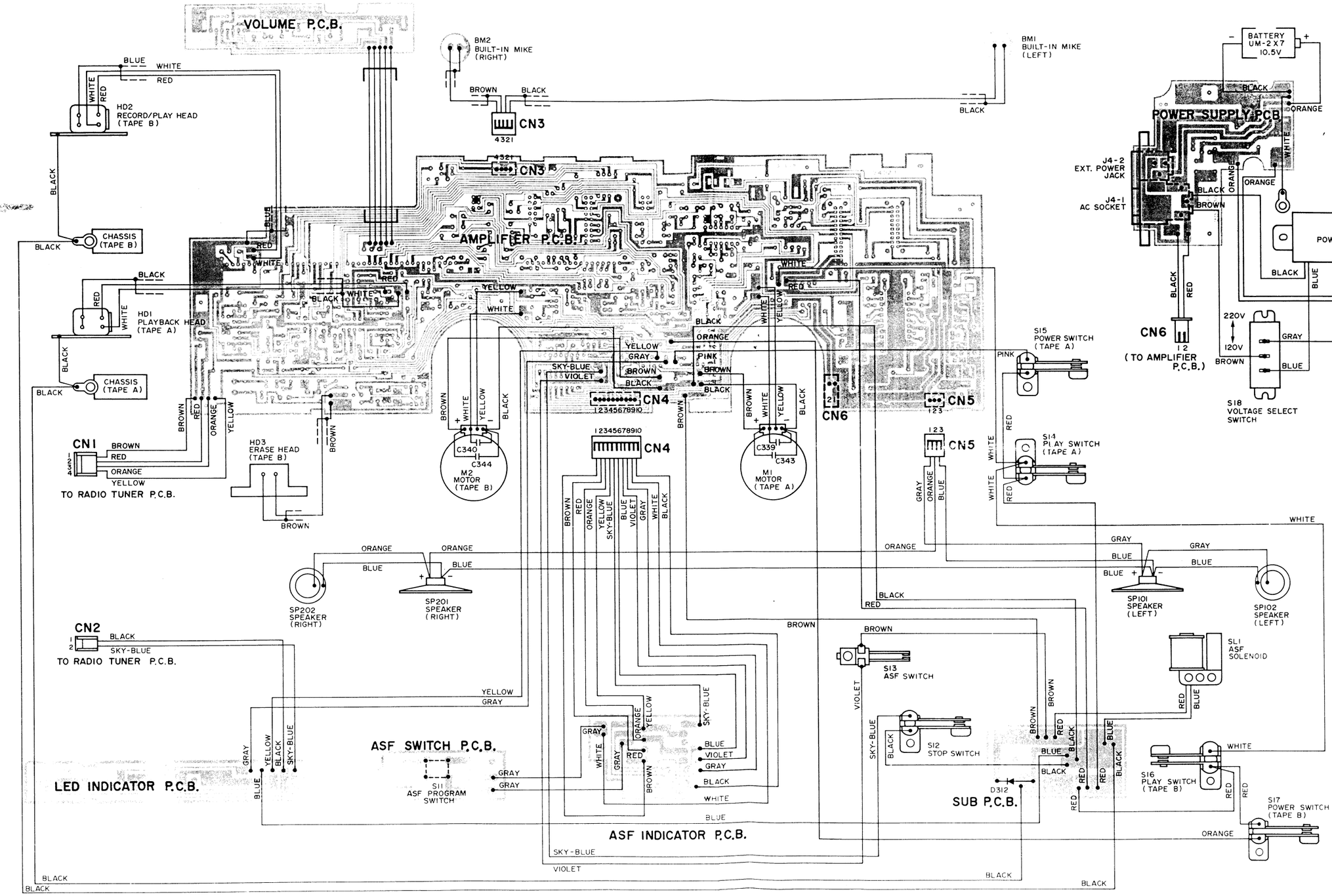


No.	Name	Position	No.	Name	Position
S1	Band Select Switch	MW	S10	Beat Cancel Switch	1
S2	Record/Play Switch	PLAY	S11	ASF Program Switch	OFF
S3	High Speed Dubbing Switch	NORMAL	S12	Stop Switch	OFF
S4	Rec Mute Switch	OFF	S13	ASF Switch	OFF
S5	Auto Dubbing Switch	OFF	S14	Play Switch (Tape A)	OFF
S6	Tape Select Switch (Tape B)	NORMAL	S15	Power Switch (Tape A)	OFF
S7	Tape Select Switch (Tape A)	NORMAL	S16	Play Switch (Tape B)	OFF
S8	Function Switch	TAPE	S17	Power Switch (Tape B)	OFF
S9	Mode Switch	MONO	S18	Voltage Select Switch	220V

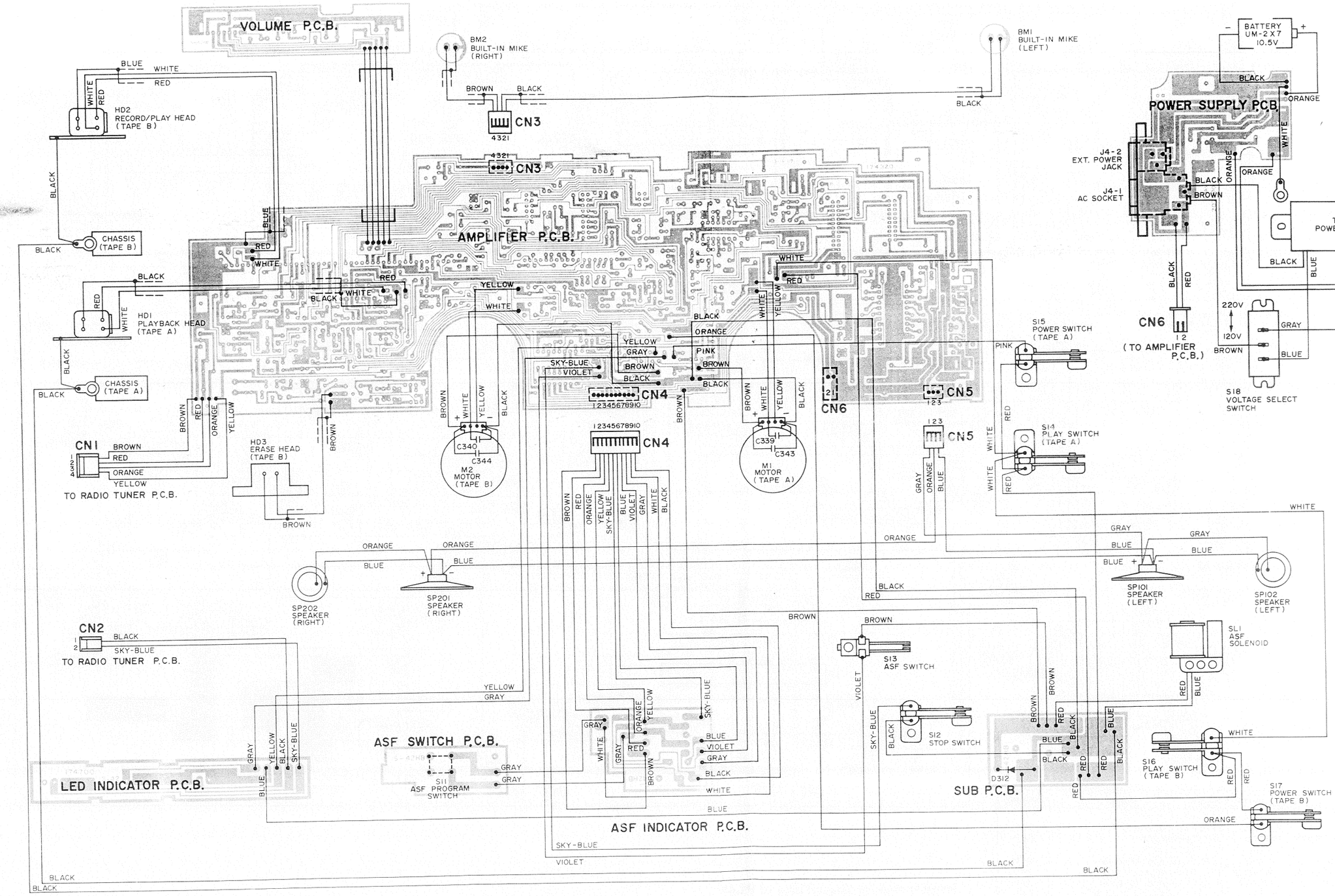
Signal flow of **PLAY**

Signal flow of **RECORD/MIXING**

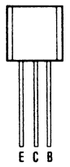
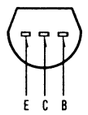
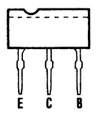
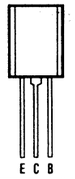
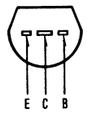
WIRING DIAGRAM



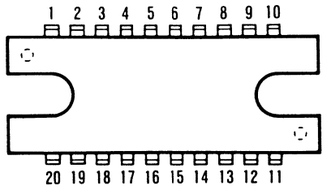
WIRING DIAGRAM



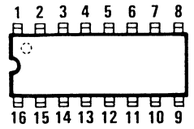
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SC3331 JC501		
2SC2063 2SD1469		
2SD400		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

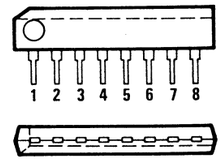
LA4505 BOTTOM VIEW



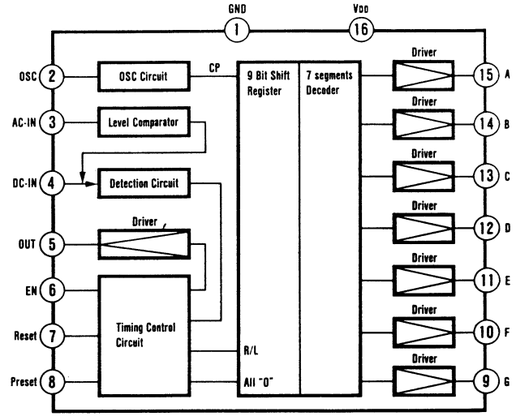
TC9167P BOTTOM VIEW



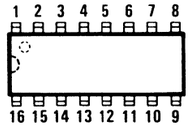
LA3160T FRONT/BOTTOM VIEWS



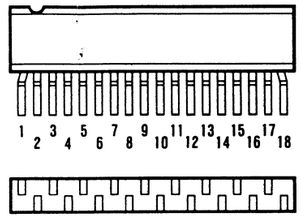
TC9167P BLOCK DIAGRAM



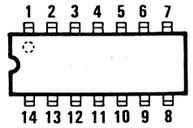
BA1335 BOTTOM VIEW



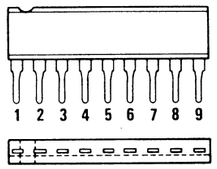
BA4232AL FRONT/BOTTOM VIEWS



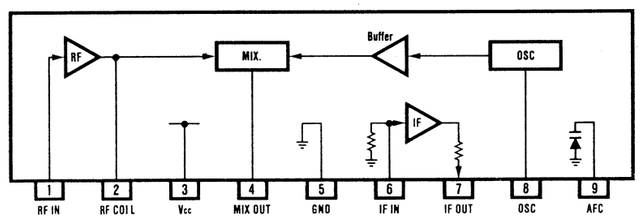
LA3220 BOTTOM VIEW



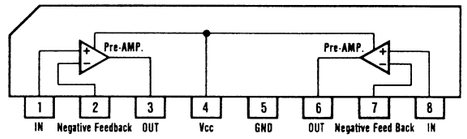
BA4410 FRONT/BOTTOM VIEWS



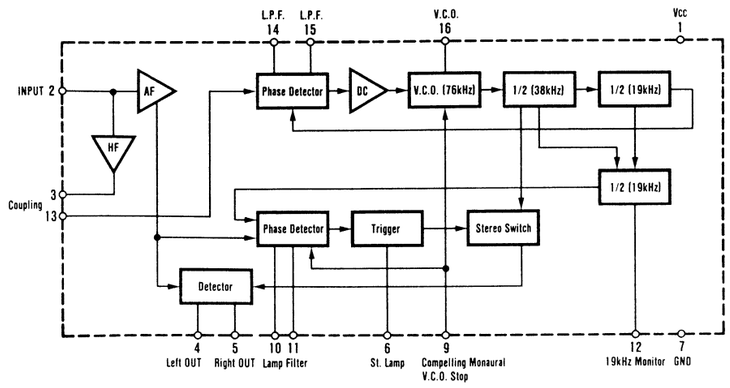
BA4410 BLOCK DIAGRAM



LA3160T BLOCK DIAGRAM



BA1335 BLOCK DIAGRAM



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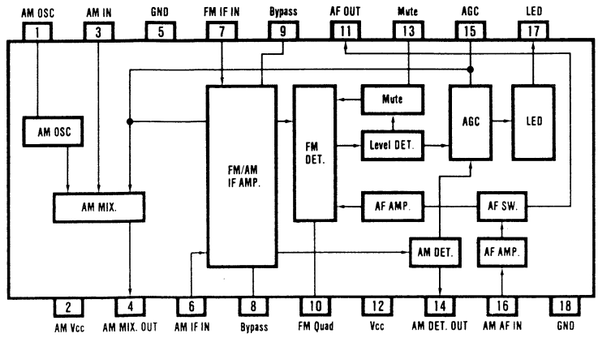
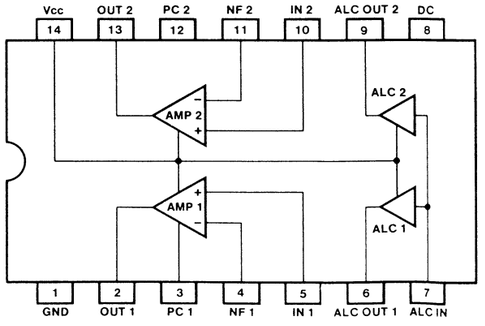
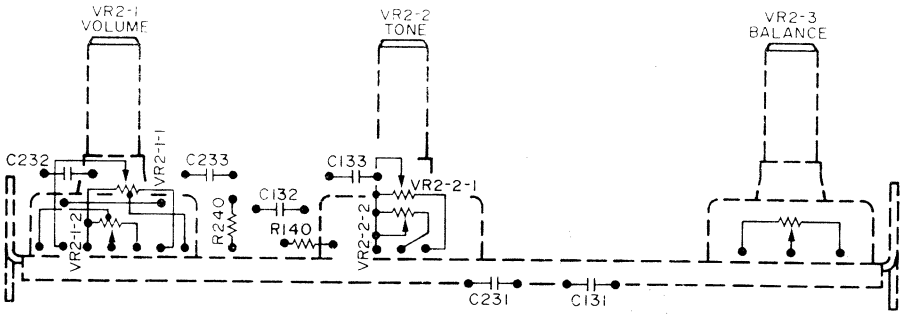


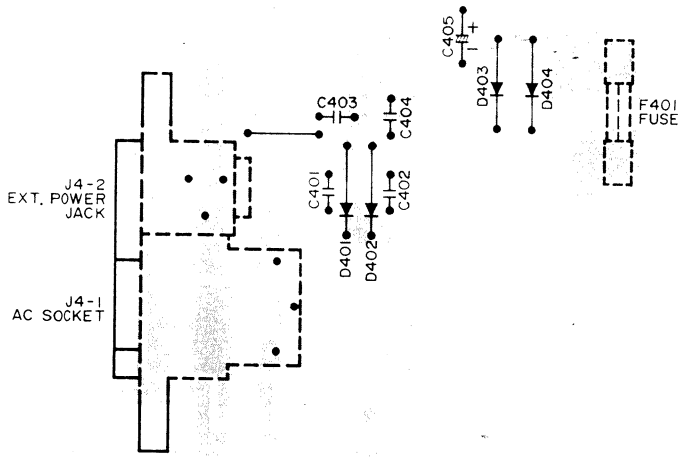
LA3220 BLOCK DIAGRAM



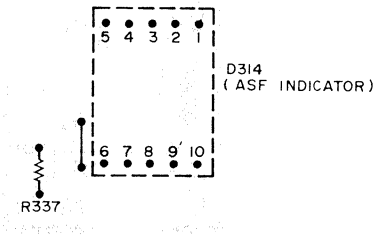
VOLUME CONTROL P.C.BOARD



POWER SUPPLY P.C.BOARD



ASF INDICATOR P.C.BOARD



LED INDICATOR P.C.BOARD